

## **THE RELATIONSHIP BETWEEN SCHOOL PSYCHOLOGICAL ENVIRONMENT AND ACADEMIC ACHIEVEMENT**

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## **ABSTRACT**

Secondary school students' performance in KCSE over the last four years (2013 to 2016) has been skewed towards low grades nationally and Nairobi County specifically. Much research effort has been directed at investigating psychological factors such as weak academic motivation and self-handicapping as possible causes of poor academic performance. Less focus has been on school psychological environment which may contribute towards students' academic performance. The purpose of this study was therefore to examine school psychological environment as a predictor of academic achievement of form three students in public secondary schools in Nairobi County, Kenya.

The study adopted a correlational research design to establish the relationship between psychological environment and academic achievement. The target population was all the year 2016 Form three students in public secondary schools in Nairobi County. The study sample consisted of 602 students selected from 13 schools using purposive, stratified, proportionate and simple random sampling procedures. The study used a questionnaire developed to obtain information on students' biographical data. Students' school psychological environment scale was adapted to measure school psychological environment. Students' examination scores obtained from the school records were used as a measure of academic achievement. Both descriptive and inferential statistical techniques were used to analyse the data. Specifically, Pearson Product Moment Correlation Coefficient ( $r$ ) was used

to analyse data. The results obtained from correlation analysis showed that the school psychological environment as mastery-focused was positively correlated to academic achievement ( $r(595) = .17, p < .05$ ). The findings may help teachers to design mastery-focused learning environments where all learners may feel appreciated.

**Keywords:** Academic achievement, Mastery-Focused School Psychological Environment, Performance-Focused School Psychological Environment

## 1.0 Introduction/ Background of the Study

Several studies in Kenya have investigated poor academic performance with a view identifying the success factors in academic achievement. Despite the various studies, the problem of poor performance persists. This implies that there is need to investigate other possible factors that may be linked to academic achievement.

Studies conducted outside Kenya have reported a link between psychological environment and academic achievement. These psychological constructs have been reported to influence academic achievement of students in developed countries (Høigaard et al., 2014; Hornstra, Majoor & Peetsma, 2017; Peetsma & Van der Veen, 2013).

## 1.2 Statement of the Problem

No study in Kenya has examined the relationship between school psychological environment and academic achievement. This research, therefore, examined the extent to which psychological environment predicted academic achievement of form three students in Nairobi County, Kenya.

## 1.3 Purpose of the Study

The purpose of the study was to examine school psychological environment as a predictor of academic achievement of form three students in public secondary schools in Nairobi County, Kenya.

## 1.4 Objectives of the Study

The objectives of the study were to:

- (i) Examine the relationship between school psychological environment and academic achievement.

## 1.5 Research Hypotheses

H<sub>a1</sub>: There is a significant relationship between school psychological environment and academic achievement.

## 2.0 Literature Review

### 2.1 The Concept of School Psychological Environment

School psychological environment is a concept in the area of teaching and learning that describes how learners' progress in school is recognised and evaluated by teachers, and how the students interpret the same. It refers to the meaning of the environment to an individual student (Roeser,

Midgley, & Urdan, 1996). It refers to the students' interpretation of the dominant learning goal orientations communicated to them by the school through its teaching practices, traditions and policies (Hoigaard, Kovač, Øverby & Haugen, 2014).

It is what other scholars have referred to as the school culture (Maehr, 1991; Hoigaard et al., 2014), school climate (Hoigaard et al., 2014), school goal structure (Lüftenegger et al., 2015). Studies have shown that students' understanding of what constitutes success in an academic setting is determined by the educational practices and policies in a school (Ames, 1992, Maher & Midgley, 1991; Midgley, 1993). Previous studies have examined the psychological environment at classroom level (Ames 1992). Other studies have reported that the school environment (goal structures) can be perceived at a school level, conveyed through school policies and practices that students experience regularly. Practices such as ability groupings, holding special assemblies to award students who are rated the best in their class may convey to them messages about what represents success in a school (Maehr & Anderman, 1993; Maehr & Midgley, 1991). Studies in this area have mainly been conducted in western countries. There was a need for a study, like the current one, conducted in a different cultural setting, educational practices and norms.

According to Roeser et al. (1996), there are two dimensions of the school psychological environment namely, the goal and the relationship dimension. The goal dimension emphasises aspects of the learning environment which are related to the achievement goals that learners pursue in school as they strive to achieve competency. The relationship dimension emphasises social aspects of the learning environment in terms of relationships among students and teachers, shared norms and values and academic emphasis (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). This study investigated the goal dimension.

The goal dimension of school psychological environment is further classified into 'mastery-focused' and 'performance-focused'. Mastery-focused school psychological environment (mastery structures) emphasises improvement and intellectual development. It refers to a learning situation interpreted by the students as emphasising the importance of learning and understanding about oneself (Midgley et al., 2000). On the other hand, performance-focused school psychological environment (performance structures) emphasises social comparisons, relative ability and competition among students. It refers to a learning situation interpreted by the students as emphasising the importance of academic work to show competence relative to others (Midgley et al., 2000; E.A. Skaalvik & Skaalvik, 2013). Learners in Performance-focused school psychological environments tend to equate ability with self-worth. Some students may experience and interpret the school psychological environment as performance-focused, threatening, competitive and emphasising passing of examination (Blackwell, Trzesniewski, & Dweck, 2007). Others are likely to experience the same environment as friendly and emphasising on personal improvement, mastery, and intellectual development.

## **2.2 School Psychological Environment and Academic Achievement**

Hoigaard, Kovac, Overby, and Haugen (2014) examined the relationship between perceived school psychological climate and academic achievement. The aim was to establish the direct and indirect paths of perceived school psychological climate on academic achievement through self-efficacy. Convenience sampling technique was used to get a sample of 482 students in the ninth and tenth grade, who attended secondary schools in three municipalities, in Norway. Their ages ranged between 14 and 15 years old. The study did not capture information about participants' class level. That study used students' self-reported scores to measure students' academic achievement in

mathematics, English and Norwegian. The results indicated positive correlations among task goal structure, self-efficacy, and academic achievement. There were negative correlations among ability goal structure, self-efficacy, and academic achievement. Self-efficacy mediated the effect of perceived task and ability goal structure on academic achievement. Students who perceived the school as task-oriented reported higher levels of academic performance. Those who perceived the school as ability-oriented showed lower levels of academic achievement. Given the narrow sample used in that study and inability to classify the participants according to their class level, there was, therefore, the challenge of generalising the findings to a population in a different cultural setting. This study used a representative sample from a different cultural population to further examine the relationship between school psychological environment and academic achievement.

A study by Lüftenegger et al. (2015) investigated differences in perceptions of the classroom environment (classroom structures) between 66 mathematically gifted high achievers and 144 mathematically gifted students with non-high achievement. The study adopted a trichotomous framework of achievement goal theory to explore why some gifted students reach high achievement at school while others do not yet they all seem capable. The study examined motivational achievement variable in mathematics domain. The sample was made up of 210 (106 female and 104 males) Austrian students with a mean age of 15.3 years. The students were in grades 5 to 13 of the secondary school level. The students completed online questionnaires during normal classroom hours. Academic achievement was measured by asking the respondent what grade they got in maths. The classroom goal structure was measured using three subscales of authority, tasks and evaluation. Structural equation modelling was used to examine whether there were differences in maths achievement, motivational and environmental variables between high achievers and non-high achievers.

The results showed that there were differences in perceptions of the classroom's environment in maths (classroom structure) between gifted high achievers and gifted non-high achievers. Mathematically gifted high achievers showed a more favourable pattern compared to students with non high achievement. The gifted high achievers perceived a more mastery-oriented goal classroom structure than the gifted non-high achievers. This study used self-reported grades as a measure of academic achievement. Self-reported grades may sometimes be prone to misreporting by the respondents. Experiences in the school environment tend to vary as the students progress in their studies. The current study selected a sample of students at a particular stage of their education, form 3. The study by Lüftenegger et al. (2015) used a sample of gifted students. The present study does not discriminate by intellectual capacity.

Reynolds, Lee, Turner, Bromhead and Subasic (2017), used a socio-psychological framework based on social identity perspective to explore the link between school climate and academic achievement. The study used a sample of 340 students in seventh and ninth grade in two schools in a city in Australia. The students' ages ranged from 11 to 16 years. The study explored factors related to school social environment such as belonging. Results showed that school climate was not significantly related to academic achievement. However, mediation analysis revealed an indirect effect from school climate through school identification on numeracy scores. One limitation acknowledged in the study was the fact that the sample size was small and not representative. Although a nationally administered measure of academic achievement was adopted, the researcher acknowledged the fact that results may be skewed towards the upper end of academic achievement level thus the findings may only be generalised to relatively high-achieving students.

The study highlighted the importance of feeling psychologically connected to the school and school belonging as significant predictors of academic achievement. This study investigates how the

interpretations of the messages conveyed to the students about what is important in a school environment, influences academic achievement. It examines the relationship between school psychological environment and academic achievement.

Maxwell, Reynolds, Lee, Subasic, and Bromhead (2017) examined the impact of student and staff perceptions of school climate on students' achievement. The study used a sample of 2257 students drawn from 7<sup>th</sup> and 9<sup>th</sup> grade and 760 teachers from 17 public high schools in one district in Australia. School climate was found to affect students' academic achievement. The study adopted a psycho-social dimension of the school learning environment to explain the possible predictors of academic achievement. What has not been studied exhaustively is the psychological dimension of the school environment. There was, therefore, a need to conduct the current study to explore that link.

Rahmatika (2016) used a sample of 132 students in ten public schools in Bogor District, Indonesia, to examine the effect of school environment on academic achievement. The participants aged between 15-18 years were drawn from 11th grade. School environment, as used in the study referred to the students' perceptions of the learning environment at school. It comprised learning processes, school interaction with parents, rules and regulations that students were exposed to during the learning process. The environment was measured as either favourable or unfavourable. The results of the correlation analysis showed that the school environment was related to academic achievement. The more students perceived the school environment as favorable, the better their academic achievement became. The study by Rahmatika (2016) is similar to the current one. The current study is however more focused in that it investigates a specific aspect of the school learning process, namely, achievement goals.

Regionally, research in the area of school environment has focused majorly on the link between schools' physical environment and academic achievement. Ezike (2018) investigated the relationship between classroom environment and achievement in Chemistry at a senior secondary school in Ibadan, Oyo State, Nigeria. Correlation design was used in the study. The study sample comprised 208 students from 10 randomly selected public secondary schools in Ibadan Oyo State Nigeria. Data was collected using a Classroom Environment Student Questionnaire and Chemistry Achievement Test Score. Pearson Product Moment Correlation Coefficient and multiple regression analysis were used for data analysis. Results showed significant relationships between classroom environment and academic achievement in Chemistry. Results showed that classroom environment had a positive effect on academic achievement ( $\beta=.19, P<.05$ ). This study investigated the relationship between the school psychological environment and academic achievement.

Using a descriptive survey design, Mudassir, Norsuhaily, Ado (2015) examined how the school environment influences students' academic performance. The researcher selected a sample of 377 participants from Kuala Terengganu area. The study found out that the school environment played a significant role in students' academic achievement. The environment was measured in terms of whether the schools had adequate modern equipment, such as computers, internet, enriched laboratory and library that could enhance learning; The environment was also measured in terms of favorable learning atmosphere, teacher-student relation and school-parent relationship. Results indicated that there was a positive correlation between the school environment and academic achievement. Unlike the study by Mudassir et al. (2015) which investigated many aspects of the school physical environment, this study focuses on the relationship between school psychological environment and academic achievement.

A few studies conducted in Kenya in the area of school environment, have mainly focused on the link between school learning contexts such as social climate, physical environment and academic achievement. Using a sample of 210 high school students, Korir and Kipkemboi (2014) investigated the impact of the school environment on academic performance in Vihiga County, Kenya. The researchers investigated the level of psychological impact that school environment had on learners. The researchers defined a school environment variable as the influence of the teacher, in terms of whether teachers gave extra work, marked and revised assignments, on the students' academic performance.

The study used Albert Bandura's social learning theory which proposed that learning is an interaction between the environment and psychological processes. The study used a correlational research design. A sample of 21 district public day schools out of a total of 28 public day secondary schools in Sabatia, Vihiga County, Kenya was selected using purposive sampling method. A simple random sampling technique was used to select seven district public secondary schools out of 21. The results showed that the school environment significantly contributed to students' academic performance. The present study differs from the one by (Korir and Kipkemboi 2014) by focusing on the students' subjective interpretation of the school environment.

Cumulatively the literature discussed in this section confirms that the school environment, whether physical or social, predicts academic achievement. There is a scarcity of literature in Kenya on the relationship between school psychological environment and academic achievement. The present research investigates the relationship between the school psychological environment and academic achievement. Studies in Kenya have explored relations between the physical environment in schools and academic achievement (Aloyo, 2015; Korir & Kipkemboi, 2014; Njoki, Nyaga & Imonje, 2017). Other studies have explored the predictive role of psychological factors such as motivation, self-regulation (Mutweleli, 2014); self-concept, motivation and resilience (Gachigi, 2018); academic resilience (Mwangi, 2015) and academic achievement. The link between school psychological environment and academic achievement remains unexplored. This study examined this link.

### **3.1 Research Design**

The study applied correlational research design to determine whether and to what degree relationships existed among the variables.

### **3.2 Research Variables**

The dependent variable school psychological environment had two levels; performance-focused, and mastery-focused. It was measured at an interval level of measurement using scores on adapted scales. Academic achievement was the outcome variable, and it was measured at an interval level. It was defined as the mean score in all subjects in three subsequent end-of-term examinations. The mean scores were then converted into t-scores to enable them to be comparable to the sample. Three groups were created from performance on a scale of 18 to 76.

### 3.3 Location of the Study

The study was conducted in Nairobi City County. The location was selected because being the capital city of Kenya; it provided a sample that represented all the socio-economic and cultural diversity in Kenya.

### 3.4 Population and sample

The study used a sample of 602 participants. The sample was obtained from Form three students in Nairobi County schools. The choice of Form three students was appropriate because they had been exposed to the high school psychological environment long enough to derive meaning from it. Thirteen schools took part in the study.

### 3.5 Research Instruments

Students' School Psychological Environment Questionnaire was used to collect information concerning students' demographic information and school psychological environment. The items for both scales were adapted from Patterns of Adaptive Learning Survey (PALS) designed by Midgley et al. (2000). Pearson Product Moment Correlation Coefficient analysis was used to measure the relationship between the predictor and outcome variable.

### 3.6 Data Analysis

Data obtained from the research instruments were coded, awarded numerical scores and entered into the computer for statistical analysis using version 24 Statistical Package for Social Sciences (SPSS). Descriptive and inferential statistical methods were used to present the findings. The descriptive statistical procedures were used to describe characteristics of the participants and summarise the data collected. They included frequencies, percentages, means, standard deviations, skewness and kurtosis. The results were reported using tables and figures. Pearson Product Moment Correlation Coefficient analysis was used to measure the relationship between the predictor and outcome variables. The following specific null hypotheses were tested at  $p = .05$  using the indicated statistical tests:

$H_{01}$ : There is no significant relationship between school psychological environment and academic achievement.

To make the hypothesis more testable, the following supplementary null hypotheses were advanced:

$H_{01.1}$ : There is no significant relationship between mastery-focused school psychological environment and academic achievement.

$H_{01.2}$ : There is no significant relationship between performance-focused school psychological environment and academic achievement.

To test the supplementary null hypotheses, a bivariate correlation analysis was done using Pearson's Product Moment Correlation Coefficient.

## 4.0 FINDINGS, INTERPRETATION, AND DISCUSSION

The descriptive analysis of the respondents' school psychological environment was done. Descriptive analysis was followed by hypothesis testing. Finally, the findings were discussed.

#### 4.1 The descriptive statistical results

The descriptive statistical results are presented in Table 1.

Table 1

*Descriptive Statistics for Participants' Scores on School Psychological Environment*

Subscale	N	Range	Min	Max	Mean	SD	SK	Kur
MF	597	24	11	35	24.98	5.08	.39	.42
PF	597	34	21	55	37.24	6.87	.12	.40

Note. N = 597; MF = Mastery Focused; PF = Performance Focused; SD = standard deviation; Kur = kurtosis; Sk = skewness.

Table 1 shows the results of the participants' scores on mastery-focused and performance-focused psychological environment. Results for mastery-focused psychological environment showed a mean score of 24.98 and a standard deviation of 5.08. It had a negative skew of -.39 and kurtosis of .42. The negative skewness indicated that most of the scores were above the mean. The potential minimum score was seven while the maximum was 35. The actual minimum score was 11 while the maximum was 35. Performance-focused psychological environment showed a mean score of 37.24 and a standard deviation of 6.87. It had a positive skewness of .12, and the kurtosis was -.40. The positive skewness indicated that most of the scores were below the mean. The potential minimum score was 11, and the maximum was 55. The actual minimum score was 21, and the maximum was 55. The scores were further classified into those who "disagreed", "somewhat agreed" or "agreed" that the school psychological environment was performance-focused or mastery-focused. The results are presented in Table 2.

Table 2

*Classification of Participants' Scores on School Psychological Environment*

Subscale	Disagreed	Somewhat agreed	Agreed
PF	22(3.7)	365(61.1)	201(35.2)
MF	71(11.9)	302(50.6)	224(37.5)

Note. MF = mastery-focus; PF = performance-focus; MG = mastery goals; ( ) = percentage of total.

As shown in Table 2, out of a total of 597 participants' scores on mastery-focused school psychological environment 302 (50.6%) were classified as average 224 (37.5%) were classified as high, while 71(11.9%) were considered low. The same participants' scores in performance-focused school psychological environment showed that 365 (61.1%) were classified as average, 201(35.2 %) were high, while 22(3.7%) were considered low.



Table 3  
*Classification of Participants' Academic Performance*

Class	Frequency	Percentage
Low	98	16.4
Average	393	65.8
High	106	17.8
Total	597	100

Results presented in Table 3 show that 65.8 % of the participants posted average academic achievement; 17.8 % scored high, while 16.4 % registered low academic achievement. Academic performance was also analysed by categories of Mastery-focused School Psychological Environment (MF), Mastery Goals (MG), Performance-approach Goals (PAP) and Performance-avoidance Goals (PAV). All the four variables were divided each into three equal parts with the highest termed as 'high', followed by 'average' and then 'low'. A cross-tabulation of the three levels of school psychological environment and academic achievement was done, and the results are presented in Table 4.

Table 4  
*Description of Academic Performance by Mastery-focused School Psychological Environment*

MF (Binned)	<i>N</i>	Range	Min	Max	<i>M</i>	<i>SD</i>	<i>SK</i>		<i>Kur</i>	
	Stat	Stat	Stat	Stat	Stat	Stat	Stat	Std. Error	Statistic	Std. Error
Low	223	57.44	17.58	75.02	47.57	10.12	.109	.163	-.126	.324
Average	214	50.41	24.10	74.51	50.86	9.72	-.216	.166	-.187	.331
High	160	48.15	28.28	76.43	52.23	9.51	-.188	.192	-.317	.381

*Note.* MF = mastery-focus; *M*= mean; *SD* = standard deviation; *Sk* = skewness; *Kur* = kurtosis; Stat = statistic

Results presented in Table 4, indicate that the mean for academic achievement was highest (52.23) among high mastery-focused, and lowest (47.57) within the low mastery-focused school psychological environment. The results for a cross tabulation of the three levels of performance-focused school psychological environment and academic achievement are presented in Table 5.

Table 5  
*Description of Academic Performance by Performance-focused School Psychological Environment*

PF	<i>N</i>	Range	Min	Max	<i>M</i>	<i>SD</i>	<i>Sk</i>		<i>Kur</i>	
							Stat	<i>SE</i>	Stat	<i>SE</i>
Low	210	58.85	17.58	76.43	50.02	10.23	-.058	.168	-.178	.334
Average	205	50.92	24.10	75.02	50.44	10.52	-.154	.170	-.343	.338
High	182	42.59	27.81	70.40	49.48	9.09	-.147	.180	-.480	.358

*Note.* PF = performance-focus; *M* = mean; *SD* = standard deviation; *Sk* = skewness; *Kur* = kurtosis; Stat = statistic; *SE* = standard error.

Results presented in Table 5, indicate that the mean for academic achievement was highest (50.44) among average performance-focused. Again it was noted that academic achievement was higher among low performance-focused as compared to and high performance-focused. To examine

significant differences in the MF and PF among low, average and high performing students, Analysis of variance (ANOVA) test was used and the results are presented in Table 6.

Table 6

*Analysis of Variance (ANOVA) test for significant differences in MF and PF*

		Sum of Squares	df	Mean Square	F	Sig.
PF	Between Groups	89.733	2	44.866	.449	.639
	Within Groups	59410.210	594	100.017		
	Total	59499.942	596			
MF	Between Groups	2279.820	2	1139.910	11.833	.000
	Within Groups	57220.122	594	96.330		
	Total	59499.942	596			

*Note.* PF = performance-focus; MF = mastery-focus;

The results indicated that there was no statistically significant mean differences in the mean scores on performance-focused for low, average and high performing students,  $F = 0.449$ ;  $P = 0.639$ . However the results revealed that there was a significant difference in the mean scores on mastery-focused for low, average and high performing students,  $F=11.833$ ;  $p = 0.0001$ . Further, Tukey's post hoc test was performed to examine where the difference occurred and the results were presented in Table 7.

Table 7

*Tukey's HSD post hoc test for Mastery-focused School Psychological Environment*

	Academic Achievement	N	Subset for alpha = 0.05	
			1	2
MF	Low	223	47.5673	
	High	214		50.8634
	Average	160		52.2369
	Sig.		1.000	.352

*Note.* MF= mastery-focused school psychological environment.

The results showed that the mastery-focused school psychological environment of low performing students was significantly different from those of average and high performance.

## 4.2 Hypothesis testing

To test the null hypotheses, correlation analysis was done using Pearson's Product Moment Correlation Coefficient to find the relationships. The results are presented in Table 8

Table 8

*Correlations between School Psychological Environment and Academic Achievement*

		Academic Achievement	PF	MF
Academic Achievement	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	597		
PF	Pearson Correlation	-.020	1	
	Sig. (2-tailed)	.690		
	N	597	597	
MF	Pearson Correlation	.170**	.011	1
	Sig. (2-tailed)	.000	.793	
	N	597	597	597

Note.  $N = 597$ ; \*\*  $P < .05$  (2- tailed).

Table 8 shows the correlation results between the different levels of performance-focused and mastery-focused school psychological environment and academic achievement. The findings show that there was no significant relationship between performance-focused school psychological environment and academic achievement;  $r(595) = -.02, p = .69$ . This implied that the performance-focused school psychological environment was not associated with either an increase or decrease in academic performance of the students. However, there was a significant relationship between mastery-focused school psychological environment and academic achievement;  $r(595) = .17, P < .05$ . This implied that an increase in mastery-focused school psychological environment was associated with an increase in academic performance.

#### 4.3. Discussion of the Results

The study was to examine the relationship between school psychological environment and academic achievement. The findings of the current study indicated that only mastery-focused school psychological environment had a significant relationship with academic achievement [ $r(595) = .17, p < .05$ ]. This was consistent with that of Hoigaard, Kovac, Overby, and Haugen (2014) whose results indicated positive correlations among task goal structures and academic achievement. Although it was anticipated that the relationship between students' performance-focused school psychological environment and academic achievement would be significant, as indicated by previous studies, no significant influence was found in this regard. The current study findings, of an insignificant correlation between performance-focused school psychological environment and academic achievement, contradicts findings of Hoigaard, Kovac, Overby, and Haugen (2014) study, which reported negative correlations among ability goal structure and academic achievement. According to goal theory (Elliot & Church, 1997), when learners are exposed to frequent testing and competitive grading, they may begin to experience their psychological environments as performance-oriented, and this may influence their academic achievement.

Many Kenyan schools use a competitive grading system, in which, students overall grade performance is determined by combining grades across key subject areas. The extreme competition in many of the schools, therefore, fitted the definition of a performance-focused learning environment, where success was defined in terms of high academic performance, relative to others. The failure, therefore, by the current study to find significant relationships between performance-

focused school psychological environment and academic achievement may also be because performance-focused school psychological environment were not classified into approach and avoidance. Instead, they were combined into one level, thus making it difficult to obtain the hypothesised findings. Future studies could consider re-examining this finding.

## **5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS**

The study was to examine the relationship between school psychological environment and academic achievement. There were significant relationships between the mastery-focused school psychological environment and academic achievement. There was no significant relationship between performance-focused school psychological environment and academic performance.

### **5.1 Conclusion**

The objective was to establish the relationship between school psychological environment and academic achievement. The conclusion arrived at from this finding was that mastery-focused school psychological environment may account for the good academic achievement of form three students. Students are more likely to thrive in academically mastery-focused school psychological environment. The study failed to establish a significant relationship between performance-focused school psychological environment and academic performance. This suggests that more work is required to further test the possible link between performance-focused school psychological environment and academic performance.

The conclusion drawn from these findings is that the school psychological environment plays a significant role in determining academic achievement.

### **5.2 Recommendations**

Based on the research findings, the following recommendations were made for further research and policy.

#### **5.2.1 Policy recommendations**

- i. Given that mastery-focused school psychological environment and mastery goals predicted academic achievement, it can be argued that to be able to attain good academic achievement, students need to be encouraged to pursue mastery goals and adopt deep learning strategies. Teachers in secondary schools should be encouraged to design mastery-focused learning environments that can strengthen students' adoption of both mastery and discourage performance-avoidance goals. This can be done by encouraging students' understanding of content and intrinsic interest in the subject.
- iii The government of Kenya should improve the quality and standards of all high schools so that they can provide comfortable psychological learning environments that can enable all learners to feel appreciated and valued. Such an enabling environment should provide for the use of assessment procedures that allow for mastery of skills.

### 5.2.2 Recommendations for Further Research

The following recommendations were made for consideration for future research:

- i To measure students' academic achievement, the study obtained students' scores on school-based examinations set by the teachers. Although the scores were converted to t-scores in an attempt to standardise them, future studies should use common examinations, like KCSE.
- ii Future studies should be conducted with samples drawn from both teachers and students to report on students' school psychological environment.
- iii Future studies should be conducted with a sample drawn from primary schools.
- iv The current study was purely quantitative, and therefore it was not possible to get in-depth information about the school psychological environment of the participants in their own words. Future studies should consider a mixed method approach to get a deeper understanding of students' school psychological environment and achievement goals.
- vi The current study was a correlational study. It was not possible to make causal explanations of the results. Future causal studies should be conducted to address this need.

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