

Relationship between Academic Resilience and Academic Achievement among Secondary School Students in Kiambu County, Kenya

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Abstract

This study sought to establish the relationship between academic resilience and academic achievement among secondary school students in Kiambu County. A descriptive correlational design was adopted. The sample comprised of 390 form three students. Data were collected using a demographic form and the California Healthy Kids Survey-Module B, 2007 version. Academic achievement was inferred from the school performance records. The main data analysis techniques were Pearson's Product Moment Correlation Coefficient and regression analysis. Findings revealed a positive and significant relationship between academic resilience and academic achievement ($r(388)=0.68, p<0.05$). The findings are discussed and implications for practice and further research given.

Keywords: Academic resilience; Academic achievement; Secondary school students

Introduction

It is the dream of every nation, community, parents, and students to have good academic attainment to adequately equip the individual to meet the challenges of the modern global world. In Kenya, education is key to the achievement of Kenya's Vision 2030. It is considered the heart, soul and mind of society and the single most important vehicle for personal, group and societal development [1]. Through education, society and the world at large can be influenced and transformed. Provision of quality secondary education is critical to the realization of this dream. The high importance attached to education in Kenya is reflected by the fact that education takes the highest proportion of the national budget compared to the other sectors. In fact, education takes nearly 73 percent of government social sector spending and 40 percent of the national recurrent expenditure in Kenya [2]. A lot of the funds allocated to the education sector in Kenya are spent on supporting the free education programme in all public primary and secondary schools [2]. The free education programme has contributed to increased enrollment in secondary schools, with many of the students joining sub-county secondary schools.

Despite the increased enrollment, concerns have been raised regarding deteriorating quality and performance. In Kenya, the pass mark to joining the university is fixed at the grade of C+ in Kenya Certificate of Secondary Education (KCSE). To join diploma courses, a student is required to attain at least a grade of C-. Students attaining the grade of a D+ get admitted to certificate courses. Those who attain grades D to E rarely get chances to pursue post-secondary training [3]. Sadly, pass rates in national examinations have consistently been low at national and county levels. The performance of schools in the former Central Province as depicted by the 2007-2009 KSCE examination analysis oscillated around a mean score of 4.75. During this period, all sub-counties in Kiambu County contributed immensely to this declining performance. Despite the fact that Kiambu County has 6 national, 24 county, and 189 sub-county schools, the sub-county

means were below the provincial mean of 5.17. In addition, 27.1 percent of the candidates attained the wastage grades of D to E. These statistics reveal that a large number of candidates from sub-county schools in Kiambu County attain grades that do not afford them opportunities for further training. This is likely to disadvantage the sub-county in the competition for future training and employment opportunities in the country.

One way of reversing the high failure rates would be to focus on students' strengths by fostering academic resilience [4]. Resilience is multi-dimensional in nature and encompasses various domains such as academic, social and emotional resilience. There is need to consider domain specificity when investigating resilience. The present study addressed resilience in the school context, that is, academic resilience, which is a key facet of education. Academic resilience is the students' ability to overcome academic setbacks, stress and study pressure associated with school as manifested by internal and external protective factors. While it has been argued that the skills, opportunities, and relationships that promote resilience can be provided in schools, only a few studies have actually examined resilience in schools [5]. Research indicates that resilience can significantly affect school and life outcomes for students, including academic achievement [4,6]. However, there is a dearth of studies on academic resilience among students in Kenya. Much of the available research has been conducted in North America, Europe, and Asia. To enhance the global generalizability of the existing findings on academic resilience, there is a need to undertake further research on the concept in different cultural contexts. This is considering that the influence of academic resilience is magnified by the rapid changes in the school environments especially in societies characterized by a high focus on good academic grades. In contexts characterized by stiff competition for training and employment opportunities, students must not only survive setbacks and challenges, but also thrive in the face of adversity-they must be academically resilient.

The Problem Statement

Local studies [7-11] have examined a variety of factors that contribute to variations in academic achievement. In spite of these studies, students, especially those in sub-county secondary schools in Kenya, are still at risk of academic failure. It is evident that the personal, economic, and social costs of academic underachievement are high and growing. To reverse the negative effects of academic failure, efforts should be made to improve students' performance in school.

One way of helping students improve their academic achievement is by enhancing their academic resilience skills. Research shows that an often "missing link" in the classroom is the focus and development of resilience building, which consequently may lead to improved academic achievement. Extant literature on academic resilience is dominated by studies carried out on American, European, and Asian populations. The extent to which such results can be generalized to other cultures such as Kenya cannot be ascertained without an empirical investigation. In addition, studies exploring factors related to academic outcomes in Kenya have not fully explored how academic resilience may relate with students' academic achievement. This study addressed the above concerns by investigating the relationship between academic resilience and academic achievement among secondary school students in Kiambu County.

Literature Review

Studies among American students indicate a positive correlation between academic resilience and academic achievement. A study by Gonzalez and Padilla [12] examined the factors that contributed to academic resilience and achievement of 133 resilient and 81 non-resilient Mexican American High School students. From a population of over 2000 Mexican American students from three high schools in California, they identified "resilient students" as students who reported that their grades so far in high school were "Mostly A's". Those students who reported that their grades in high school were "Mostly D's" or "Mostly below D's" were regarded as "non-resilient." Similar results had been reported in an earlier study [13] on a cohort of tenth grade Mexican American students. In a series of studies conducted by the US Department of Education [14], students who ranked in the 90th percentile on the standardized tests in mathematics were highly resilient, reported significantly higher levels of task orientation and satisfaction, social self-concept, achievement motivation, and academic self-concept than their counterparts who ranked below the 10th percentile. Similarly, in a longitudinal study among students in California [15], the highest increase in test scores occurred in schools where students reported high levels of resilience. In the above studies, resilience development proved to be equally beneficial for later test score improvements in both low and high performing schools.

A study among urban high school students [16] examined the factors predicting resilience and academic achievement. A 56 item self-reported resilience questionnaire was used to collect data on a sample of 480 high school students. The authors used regression analysis to select factors that best predicted respondents' resilience and academic achievement from protective factors. The findings revealed that the models predicting academic achievement from protective factors were all significant and positively related to academic achievement. In another study [17], 35 high school freshmen and sophomores were involved in a three year qualitative case study. The study sought to determine what factors high achieving students attributed to their

resilience and what factors may contribute to inability to display resilience in underachieving students. At the end of the study, 17 of the academically talented participants had become underachievers while 18 continued to do well and had developed resilience. The authors argued that protective factors such as personal characteristics of sensitivity, independence, determination to succeed, appreciation of cultural diversity, inner will, strong support systems at school and home, participation in special programmes, participation in extra-curricular activities and challenging classes appeared to be present in the 18 high achieving students. The high achieving students were further assisted by support systems at home and school, participation in extracurricular programmes, challenging classes and a positive outlook. On the contrary, the underachievers saw school as boring, had negative interaction with teachers and peers, lacked parental support and monitoring, and interacted with inconsistent role models, faced sibling rivalry and inappropriate parental expectations.

In a study conducted among 402 high school students in grades 11 and 12 in two high schools in Australia [4] resilience correlations were computed between resilience and behavioral outcomes in school. Academic resilience had positive correlations with planning, control, self-efficacy, persistence and low anxiety. In addition, academic resilience predicted three educational outcomes: self-esteem, participation, and enjoyment of school.

In contrast, a number of studies, report that academic resilience is not related to academic outcomes. A study investigating the relationship between the characteristics of resiliency and the academic performance of college students reported no significant correlations between the dimensions of resilience and cumulative grade point average [18]. In another study [19], the relationship among achievement motivation, hope, and resilience and their effects on academic achievement was explored among first Year College students enrolled in a hispanic-serving institution in South Texas. The study employed a correlational design involving 175 students. One objective explored the relationship between first-year students' resilience and their academic success as defined by grade point average. The findings revealed a small positive correlation ($r=0.15$) between resilience and cumulative Grade Point Average (GPA). Additionally, resilience was not a significant predictor of academic achievement. Majority of the reviewed studies involved college students, mainly in America, and there was a need to investigate these variables using a sample of secondary school students especially from different cultural contexts. Cross-cultural analysis of the same can illuminate the stability of the reported relationships across different settings. The current study addressed this concern by involving secondary school students from Kiambu County in Kenya.

Method

The study used a descriptive correlational design.

Participants

The study involved 390 form three students (198 boys, 192 girls). The participant's age ranged from 15-24 years ($M=17$; $SD=1.31$). The participants were drawn from 10 secondary schools in Kiambu County, Kenya. The schools were categorized as boys only boarding, girls only boarding, and mixed day secondary schools. The participants had already completed two years in secondary school, and were preparing for the KCSE examination the following year. Such

preparations for national examinations may leverage on some aspects of resilience.

Measures

A questionnaire comprising of two sections was used to collect data. Section (a) of the questionnaire comprised a students' background questionnaire that was used to collect demographic information. Section (b) comprised of the California Healthy Kids Survey- (Module B) also known as the Resilience and Youth Development Module (RYDM), was used to collect data on academic resilience. The CHKS-B has been found to be developmentally and culturally appropriate by extensive field tests and pre-test youth focus groups and has demonstrated psychometric construct validity for each of its asset items and clusters of assets [20]. The CHKS-B has been found to yield reliable data when used with non-American samples. A study among Turkish adolescent students reported sufficient Cronbach's Alphas for the subscales ranging 0.55 to 0.85 [21]. In this study the scale yielded data that was deemed to be sufficiently reliable (Table 1). Data on academic achievement was acquired from the school performance records.

Procedure

The first step of the study involved pilot testing the study tools to ascertain reliability. In the selected secondary schools, the participants were solicited in line with research ethics and they were duly briefed on the aims of the study. Written and informed consent was obtained from the students prior to questionnaire administration. The researcher assured all participants of confidentiality of the research data. The researcher gave the participants directions on how to fill the questionnaire both verbally and in writing. The questionnaire was administered during the school day and in the classroom setting in order to maximize participation by the respondents. The participants took 30-40 minutes to fill the questionnaire. The completed questionnaires were collected by the researcher for analysis. Thereafter, form three class teachers were requested to provide academic achievement records, based on the participants' scores in the end of term one examination, 2014.

The collected data was cleaned and coded for statistical analysis. Pearson's correlation coefficient was computed to establish the relationship between academic resilience and academic achievement.

Results

The reliability coefficients of the CHKS-Module B as established in the pilot phase of the study are presented in Table 1.

Variable	Items	Alpha
External Factors		
Caring Relationships	12	0.93
High Expectations	12	0.91
Meaningful Participation	9	0.88
Internal Factors		
Social Competence	9	0.90
Autonomy and Sense of Self	6	0.89

Sense of Meaning and Purpose	3	0.71
Overall	56	0.87

Table 1: Cronbach's Alpha Reliabilities for the CHKS-Module B.

The participants' were classified into low, average, or high levels of academic resilience and academic achievement. The cut-off scores for low, average, and high levels of academic resilience were 56-113, 114-171, and 172-229 respectively. The cut-off scores for low, average, and high levels of academic achievement were 0-39, 40-59, and 60 and above respectively. The results are as presented in Table 2.

	Academic resilience		Academic achievement	
	f	%	f	%
Low	19	4.90	65	16.67
Moderate	215	55.10	251	64.36
High	156	40.00	74	18.97
Total	390	100.00	390	100.00

Table 2: Levels of academic resilience and academic achievement.

The results indicated that majority of the participants had moderate levels of academic resilience (55.10%) and academic achievement (64.36%). In evaluating the relationship between academic resilience and academic achievement, it was hypothesized that there was no significant relationship between academic resilience and academic achievement. A Pearson Product Moment Correlation Coefficient was computed to test the hypothesis. There was a significantly strong positive correlation between academic resilience and academic achievement ($r(388)=0.68, p<0.001$, two-tailed). The null hypothesis was therefore rejected. Further analysis through multiple regression was performed to determine the best predictor of academic achievement given the six sub-scales of academic resilience. A significant regression equation was found ($F=85.22, p<0.05$) with $R^2=0.57$. The findings are summarized in Table 3.

Variable	Coefficients			
	Unstandardized		Standardized	
	β	SE	β	Sig.
(Constant)	-4.28	0.19		0.00
CR	-0.00	0.01	-0.02	0.78
HE	0.03	0.01	0.22	0.00
MP	0.00	0.01	0.03	0.65
SC	-0.01	0.01	-0.07	0.29
ASS	0.05	0.02	0.20	0.00
SMP	0.25	0.03	0.46	0.00
R ²	0.76	0.66		
Adjusted R ²			0.57	

Note. CR: Caring Relationships; HE: High Expectations; MP: Meaningful Participation; SC: Social Competence; ASS: Autonomy and Sense of Self; SMP: Sense of Meaning and Purpose.

a $F=85.22$, $p<0.05$

Table 3: Sub-scales of academic resilience as predictors of academic achievement.

The resultant model of the prediction was: $y' = -4.28 + 0.46 \text{ SMP} + 0.22 \text{ HE} + 0.20 \text{ ASS}$.

Where is the predicted academic achievement, SMP is sense of meaning and purpose, HE is high expectations, and ASS is autonomy and sense of self. The subscales of academic resilience had a high and positive predictive value on academic achievement ($R^2=0.76$; $F=85.22$, $p<0.05$). The coefficient of determination, indicated that approximately 57% of the total variance in students' academic achievement was accounted for by the combined effect of the domains of academic resilience.

Discussion

The results were consistent with prior research. Majority of the participants had moderate academic resilience as was the case in a study among university graduates [22]. In the current study, the moderate levels of academic resilience may help explain the average academic achievement levels among the majority of the students. The results corroborate the assertion that there is a direct relationship between resilient behaviour and academic achievement [23].

The prediction equation further revealed that the best and significant predictor of academic achievement was a sense of meaning and purpose ($\beta=0.46$, $p<0.05$). This corroborates the assertion that there is a strong positive relationship between the participants' GPA and sense of purpose in life [24]. The findings further offer credence to the argument that galvanizing a student's sense of meaning and purpose may be the most effective factor in motivating a student to achieve academically [25-27].

Conclusion

This study investigated the relationship between academic resilience and academic achievement. The results revealed a positive and significant relationship between academic resilience and academic achievement. It is evident from this study that academically resilient students are more successful in school and are more likely to thrive academically. Efforts to promote academic resilience should therefore be embraced by teachers because developing more resilience in students has many positive consequences. However, these results are by no means conclusive. Due to the complex nature of the concept of academic resilience, qualitative studies should be included to find out what other factors influence student academic resilience, outside the confines of the questionnaire. In addition, other variables that may influence academic achievement can also be examined, other than academic resilience.

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