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Factors Affecting Academic Performance of Students in Higher Education in Eritrea

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Abstract

This study focuses on determining the factors that affect the academic performance of undergraduate students in Institutions of Higher Education in Eritrea. A survey was conducted among 300 students from three colleges (Eritrean Institute of Technology, College of Arts and Social Sciences, and College of Business and Economics). The survey research design was employed using a self-administered questionnaire as the data collection instrument. The items measuring the constructs were adapted from the extant literature. Data was analyzed using regression test. The findings of this study reveal that admission points and personal factors affect the academic performance of students. However, no evidence was found that college environment and socio-economic factors influence students' academic performance.

Keywords: Undergraduate students, higher education, academic performance, Eritrea.

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Introduction

In this era of globalization and technological revolution, education is considered as a first step for every human activity. Education plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle and Lewis, 2002). Education ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new source of earning which enhances the economic growth of a country (Saxton, 2002). Obviously, educated individuals can control the environment and make community better in all walks of life and develop them economically as well. Nonetheless, only those highly educated individuals that really learn can do this.

University is one of the places where a systematically organized and scientifically oriented education is offered. It is through such an organized manner that the knowledge, skill, and desired attitude of the learner develop (Akessa and Dhufera, 2015). However, in a given class it is sometimes seen that there is a difference in achievement as a result of different factors that affect the academic achievement of students.

Higher education institutions in Eritrea operate with a motto of 'centers for excellence' working for sustainable development, through teaching and research. In the last ten years; these institutions have graduated around thirty thousand students. Every summer Eritrean colleges deliver talented and visionary graduates who can potentially fill in the educational and social gaps (Ministry of Education, 2007). Anecdotal evidences indicate that many of the positions in government offices, public enterprises and government parastatal organizations are filled with those graduates, who are highly engaged in giving their competence to serve the society.

Eritrea has strongly relied on its human resources. Human resource development is one of the heavily invested macro policy agendas of the government especially after Eritrean independence in 1991. Investment on education is a short and long term goal a nation can afford to win. It is a future oriented task that yields a return on investment. The government is spending millions of dollars on education such as recruiting expatriates, expanding educational institutions, giving free educational access to citizens. In addition, in institutions of higher education not only education is free, but also food and accommodations are freely provided to students. In fact, such investment is yielding a high number of graduates that easily fill the available positions in the country.

Higher education institutions in Eritrea cater to human resource development through research and teaching students in different fields of study such as agriculture, business, engineering, education, marine sciences, and natural and social sciences. In fact, this should be accompanied with outstanding performance of those students who are promoted through these institutions in order to perform well in their careers.

Since human resource is one of the main factor of production in our case and it has a valuable role in facilitating the nation building process, quality education service that results in high performance of the human resource is a dire need in Eritrea. To learn only is not enough but to be competent and professional is the critical issue and students must be competitive to get best position available in different organizations and this can be attained only through higher academic performance. Many scholars stated the influence of various factors upon the academic performance and thus the educational stakeholders should be aware of this fact and intensify their effort to maximize students' performance (see Geiser and Santelices, 2007; Gutman and Midgley, 2000; Walters and Soyibo, 1998).

In recent years, there have been constant fluctuations in the academic performance and interest of the undergraduate students in the higher education institutions, where some students perform highly and others do not perform well as expected (scoring unsatisfactorily results), leading to educational failure such as academic dismissals, dropouts, or withdrawals. Students' performance is measured by the exam results as institutions of higher education in Eritrea offer Diploma and Degree merely based on

examinations. If these examinations provide poor results, there could be a loss in confidence in the part of students to perform and the colleges' capability of producing quality students.

As education is one of the most integral parts of the country's economic future and the government of Eritrea fund to education is enormous, it is a grand task to provide a quality education in order to take a giant leap towards better future by assessing the factors affecting the academic performance of college students. To this end, this study is undertaken to examine the factors that affect the academic performance of students in institutions of higher education in Eritrea. Specifically, the main objective of this study is to identify and analyze those factors that have an impact on students' achievement in higher education. This study endeavours to answer the following research question: What are the factors affecting students' academic performance in higher educational institutions in Eritrea?

Empirical literature

As a small and growing economy the significance of a standardized and modernized education system in Eritrea is enormous. In economic development plan, the availability of higher education occupies a position of strategic importance. Economic development is impossible unless there are adequate number higher institutions that provide quality education service. Institutes of higher education are entrusted with contributing to the process of nation building by providing well educated, skilled, and good mannered graduates according to needs and requirements of the available positions in different level of the countries.

For any educational institute students are most important assets. Universities and colleges have no value without students. Economic and social development of a country is directly associated with academic performance of students. The academic performance of students' has gained significant attention in the past researches, but measuring the academic performance of students is challenging since student's performance is a by product of admission points, socio economic, personal and college environmental factors. The majority of the researchers in the world including Eritrea apply cumulative general points average (CGPA) to asses' performance of students. Academic performance is the outcome of education— the extent to which a student, teacher or institution has achieved their educational goals (Annie et al., 1996).

Geiser and Santelices (2007) argue that admission points which are a reflection of the previous performance influence future academic performance. Walters and Soyibo (1998) elaborated that performance of students very much depends on socioeconomic background such that high school students' level of performance is statistically and significantly related to their gender, grade level, school location, school type, student type and socioeconomic background. Gutman and Midgley (2000) also indicated that students whose parents take interest in their studies score higher grades and enrolled in higher-level programs.

Research has shown that socio-economic status, which is most commonly determined by combining parents' educational level, occupational status and income level is one of the major factors studied while predicting academic performance (Jeynes, 2002; McMillan and Western, 2000). From the beginning, parents are the primary persons involved in raising children in every society as the family is recognized as an important agent of socialization process. Therefore, the importance of parent/family cannot be overemphasized. Adekey (2002) stated that it was mainly through families' efforts and abilities that children are socialized to become a productive citizen. Graetz (1995) carried out a study on socio-economic status in education research and policy and found that socio-economic background remains one of the major sources of educational inequality and adds that one's educational success depends very strongly on the socio-economic status of one's parents.

Considine and Zappala (2002) also concur with Graetz (1995), in their study of academic performance of school students in Australia in which they found that families where the parents are advantaged socially, economically and educationally foster a higher level of achievement in their children as these parents provide higher levels of psychological support for their children through environments that encourage the development of skills necessary for success at school. However, this may not always hold true because Pedrosa et al. (2006) in their study of educational and socio-economic background of

undergraduate students in relation to academic performance at a Brazilian university found that those students coming from disadvantaged socio-economic and educational homes perform relatively better than those coming from higher socio-economic and educational strata.

According to Escarce (2003) family income has a profound influence on the educational opportunities available to adolescents and on their chances of educational success. Escarce adds that due to residential stratification and segregation, low-income students usually attend schools with lower funding levels, have reduced achievement motivation and much higher risk of educational failure. When compared with their more affluent counterparts, low-income adolescents receive lower grades, earn lower scores on standardized test and are much more likely to drop out of school. It is important to note that not every child comes from a home that could provide them with the requisite educational resource necessary for their academic success. Several studies support the argument that apparent socioeconomic status plays a significant role in providing these educational resources and appears to impose the greater impact on the child's educational outcomes. Students with low family income are suffering to attend and enroll in education and if they do so they reduced their motivation to learn and even difficult to sit comfortably with those from high family income background (see Considine and Zappala, 2002; Sentamu, 2003; Combs, 1985).

King and Bellow (1989) used parents' occupation as a proxy for income to examine the relationship between income and achievement and found that children of farmers had fewer years of schooling than children of parents with white-collar jobs. They also determined that the schooling levels of both parents had a positive and statistically significant effect on the educational attainment of Peruvian children. They argue that how much education a child's parents have is probably the most important factor in determining the child's educational opportunities. Based on their observation, it can be concluded that the higher the attainment for parents then the greater their aspirations for children to perform well.

A study by Sentamu (2003) shows that rural families and urban families where both parents were illiterate or had inadequate education do not seem to consider home study for their children as a priority and that illiterate families will not foster a study culture in their children since the parents themselves did not attend school or the education they received was inadequate to create this awareness in them. These differences in home literacy activities are likely to be reflected in school achievement. Students from well educated family background are better in their academic performance since their parents fully understand about the usefulness of education so they raised their children well to perform better by watching and helping in their education from day one of their school life.

Besides, the influence of college environment in academic performance of students is evident in all countries. College environment includes several factors that contribute to students' academic performance; among which is the role of teachers. Wilson et al. (2001) suggest that even with the shortcomings of current teacher education and licensing, fully prepared and certified teachers are more successful with students than teachers without this preparation. A quality teacher is one who has a positive effect on student learning and development through a combination of organizing of content, command over academic and interactive skills. Other factors also include friendship cycle and availability of learning and teaching facilities. The friendship cycle that a student is exposed has an impact in his/her academic performance positively and negatively. In addition, the availability of the necessary learning facilities contributes positively to students' academic performance (Munda et al., 2000).

Furthermore, admission points are the best determinants of future performance at college. Several studies show that a number of countries use admission points and prior academic performance as the main criteria to universities (see Uganda Universities and Tertiary Institutions Act, 2001; Staffolani and Bratti, 2002; Minnesota Measures, 2007; Waller and Foy, 1987; Swart, 1999; Mohammad and Almaheed, 1988). According to these studies it has been found that prior educational performances are the most important determinants of student academic performance at a college level. Similarly, in their study on validity of high school grades in predicting student success beyond the freshman year, Geiser and Santelices (2007) found that high school grade point average is consistently the best predictor of college grades, a view also held by Benjamin et al. (1994) who carried out a study on the determinants of success in university and found out those students who performed well in high school also performed

better in college.

The personal factors of students' themselves also affects their academic performance. For instance, students who are interested and actively engaged in their studies show significantly high academic performance (Linnakyl et al., 2004). Students' mind-set towards a picky subject has a positive impact on academic performance (Bos and Kuiper, 1999). If students mind set towards the subject matter is good even though it is influenced by different factors definitely the student will score high in the respective subject and it affects the students' overall academic performance. Mwamwenda (1995) argued that the achievement of students in a subject is determined by their attitudes rather than inability to study. Earlier study by Haimowitz (1989) indicated that the cause of most failures in schools might not be due to insufficient or inadequate instruction, but by active resistance by the learners. Psychosociological evidences says that lack of achievement motivation and low self-esteem creates in students lack of interest to strive for high academic performances, and eagerness to contribute positively and efficiently to national development process.

Finally, recent studies also indicated several factors that affect the performance of students. For instance, Okioaga (2013) showed that socio-economic background influences academic performance; family income has a significant positive impact on academic performance (Rossi, 2017); college environment such as regular study, regular attendance and assignment completion, which are regarded as products of hard work, commitment and dedication are among the highly influential factors for academic success (Sibanda et al., 2015); age, gender, year level, marital status, socio-economic status and previous school attended by the student nurses showed varying extent of influence on their academic performance (Alshammari et al., 2018); learning facilities, communication skills and proper guidance from parents positively and significantly affect student academic performance (Singh et al., 2016)

Therefore, based on the above reviews and discussions we propose the following hypotheses:

Hypothesis 1: Socioeconomic factors positively influence academic performance.

Hypothesis 2: Admission points positively influence academic performance.

Hypothesis 3: College environment positively influence academic performance.

Hypothesis 4: Personal factors positively influence academic performance.

Methodology

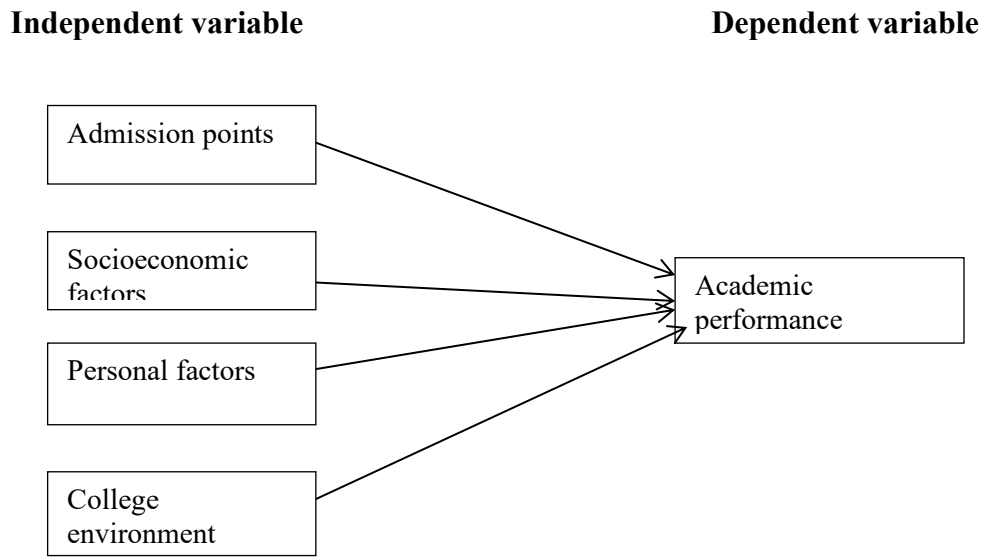
Sample and procedures

This study investigates the factors influencing the academic performance of undergraduate students in institutions of higher education in Eritrea. In conducting this study, primary and secondary data have been used. This study is mainly quantitative in nature. Primary data were collected from students using survey questionnaire. Due to its capacity to cover large population efficiently and easiness to conduct mainly through questionnaire, survey strategy is an optimal choice for such kind of study (Saunders et al., 2009). A close-ended, structured self-administered questionnaire was distributed to students in three colleges (Eritrean Institute of Technology, College of Arts and Social Sciences, and College of Business and Economics). A total of 300 students have been included in this study based on simple random sampling. This sample size is adequate for analysing whether academic performance of the students is affected by factors such as admission points, college environment, socio-economic factors, and personal factors. Data related to the change and development of students, college administrative policies, and family background of the students regarding students' academic performance in higher education was gathered from sample students through questionnaires. Secondary data have been extracted from various sources such as academic journals, books, other internet sources...etc.

Dependent variables: in this study, the dependent variable is academic performance of students.

Independent variables: four factors—namely admission points, college environment, socio-economic factors, and personal factors which might influence academic performance have been included as independent variables in the regression model. Figure 1 shows the relationship between the dependent and independent variables.

Figure 1: Relationship of variables



The collected data has been analysed using SPSS version 20. Both descriptive and inferential statistics were used to determine the relationship between the independent and dependent variables through regression analysis.

Discussions of results

Demographic characteristics

The frequency distribution of the respondents’ background is given in Table 1. Of the total respondents, 156 (52%) are male, while 144 (48%) are females. Regarding year of study, 19.7% of the respondents were freshmen, 33.7% were second year, 19% third year, 24.3% were fourth year students, and the 3.3% of the students were fifth year students. Specifically, 5th year are engineering major students. Generally, the highest percentages of the respondents were from 2nd to 4th year. Educational background of respondents shows that 95.3% of the respondents were regular students and the rest 4.7% of the students were private (extension students who had taken matriculation previously, but wants to improve their grades so as to join a college). In addition, 78.7% of the students are studying for a degree program, while the remaining 21.3% are diploma program. These results are not surprising because in Eritrea colleges offer more degree programs than diploma.

Table 1: Respondents’ background (n=300)

	Frequency	Percent
Sex		
Male	156	52%
Female	144	48%
Year of study		
1 st year	59	19.7%
2 nd year	101	33.7%

3 rd year	57	19%
4 th year	73	24.3%
5 th year	10	3.3%
Education background		
Regular	286	95.3%
Private (extension)	14	4.7%
Program		
Degree	236	78.7%
Diploma	64	21.3%

Regarding age, the mean age of respondents was about 21 years old with the youngest being 18 years old, while the oldest age is 38 years old. Table 2 below provides the results.

Table 2: Age of respondents

	Minimum	Maximum	Mean
Age	18	38	21

Descriptive statistics were used to describe the basic features of the data in the study. They provide simple summaries of the sample and measures. Thus, to measure the independent variables, using a twenty-one item questionnaire related to the variables ‘admission points’, ‘socio-economic factors’, ‘college environment’, and ‘personal factors’, which possibly influence academic performance of students has been presented in Table 3. The mean indicates to what extent the respondents agree or disagree with the different statements. The higher the mean, the more likelihood the respondents agree with the statement; while the lower the mean, indicated the respondents disagree with the statement.

Table 3: Means and standard deviations of variables

Item	Mean	Std. Deviation
Admission points	2.68	0.747
Personal factors	1.72	0.765
College environment	2.15	0.966
Socio-economic factors	2.29	1.262
Overall	2.21	0.935

As can be seen from table 3, respondents believe that the four variables presented affect their academic

performance as undergraduate students—admission points (mean = 2.68; sd. = 0.747); personal factors (mean = 1.72; sd. = 0.765); college environment (mean = 2.15; sd. = 0.966); and socio-economic factors (mean = 2.29; sd. = 1.262). Although personal factors score relatively low means, generally, respondents agree that the four variables affect their academic performance.

After observing the results using descriptive statistics, we also conducted further bivariate Pearson correlations for all the research variables used in the regression equations. As Table 4 shows, admission points ($p \leq .01$ 2-tailed values) is related to ‘academic performance.’ Although it indicates that there is a relationship between socio-economic factors and admission points and college environment and personal factors, there are no collinearity problems as checked in the regression models.

Table 4: Correlations for all variables

	1	2	3	4	5
Performance	1				
Admission points	.254**	1			
Socio-economic factors	-.024	-.286**	1		
Personal factors	-.105	.031	-.052	1	
College environment	-.007	.024	.023	.309**	1

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

The aim of this study was to determine the factors influencing academic performance. Thus, in order to test the stated hypotheses, a linear relationship was estimated between independent and dependent variables through a regression model. A regression analysis was used to establish the influence of the independent variables (admission points, personal factors, socio-economic factors, and college environment) on dependent variable (academic performance). The regression model for employee performance can be expressed with the following equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \quad (1)$$

Where

Y= the performance of students.

X1...X4= are the explanatory or independent variables;

β_0 ... β_4 = are coefficients of the independent variables;

e =is the error term.

The multiple linear regression analysis for admission points, personal factors, socio-economic factors, college environment and academic performance is given as follows in Table 5.

Table 5: Regression analysis model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.278a	.077	.065	.45554	
Analysis of variance on performance determinants					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.118	4	1.279	6.166	.000 ^b
Residual	61.011	294	.208		
Total	66.128	298			
Coefficients					
Model	Unstandardized Coefficients				
	B	Std. Error	t	Sig.	
(Constant)	2.325	.204	11.371	.000	
Admission points	.182	.040	4.582	.000*	
Socio-economic factors	.005	.006	.763	.446	
Personal factors	-.045	.023	-1.922	.054*	
College environment	.002	.006	.349	.727	

The significance value of 0.000 and F-values and R2 values for all the variables shows that the model is significant enough to measure the relationship between variables. Furthermore, a positive relationship was found between admission points, personal factors and academic performance. Based on the findings, the model entailed that ‘admission points’ was having significant relationship ($0.000 \leq 0.05$) with academic performance; ‘personal factors’ scored a significance value of 0.054 leading to the acceptance of hypothesis 2 and hypothesis 4, respectively. However, the relationship of ‘socio-economic factors’, and ‘college environment’ with academic performance was insignificant. Hence, both hypothesis 1 and hypothesis 3 of positive relationship with academic performance were rejected.

Academic performance of the respondents as conceptualized in their cumulative general points average (CGPA) scored in Institutions of Higher Education in Eritrea was between 1.76 and 4.00 in a scale of 4.00 and the average result was 2.67, which it can be said that their academic performance was well above average. On the other hand, the respondents admission points scored in 12th grade examination (matriculation results), which is a requirement for college entry was between 1.02 and 4.00 in a scale of 4.00 and the average result was 2.62, which is satisfactory. Generally, our findings show that those who perform well (score high) in matriculation are more likely to perform well at the college level (the higher the admission points the higher the CGPA).

Furthermore, ‘personal factors’ affecting students play an important role in their academic performance. Students having a clear vision of what they want to be in the future perform well in their academy because they believe that their vision could be realized only through education. Besides, motivation to learn in college and a belief that education is a road map for future career affects academic performance

of the students as well. Those who believe that education can help them in guiding their future career give more effort and attention to their studies so that they can score and promote to higher level with better result, while others without a vision tend to dropout or academically dismissed from college.

Parents having a better occupation make adequate provision for their children education. One would normally think that when parents provide economic, social, psychological and emotional support to their children they perform well in their educational attainment. In addition, it is not uncommon to see that students from farming background do not achieve that much in their academy because it is better for them to spend their time in taking care of their farming activities rather than learning. Parents with farming and blue collar jobs do not afford to spend their money in purchasing learning materials for their children as a result most students having this background get lower mark in their academy.

However, the above argument didn't hold true in the Eritrean context as the findings of this study indicate that socio-economic factors are not related to academic performance. This could be due to several reasons. First, as the motto of the Government of Eritrea is 'Education for All', in Eritrea education is free from elementary school up to postgraduate level in colleges. Second, as mentioned in the introductory section, in colleges not only education but also food and accommodation are free. Third, up to junior school (grade eight) education is compulsory. Fourth, even in remote villages every child has access to education. Thus, it seems plausible to conclude that educational level, occupation (income), and workplace of the parents do not affect the academic performance of students as they get it for free whether these students are from rich family or poor family background. Our results concur with the findings of Rossi (2017) in his study of Chilean students found that employment status and parental socio-economic status variables and do not have a significant impact on academic performance of evening students. Nonetheless, this doesn't mean that the performance of those students in Eritrea who travel long distances to go to school in the rural areas will not be affected. Rather, the scope of this study is only undergraduate students in colleges.

Finally, our results reveal that college environment is not a significant factor influencing academic performance of students. That is, several issues such as instructor's ability and command on subject matter, learning facilities (like water, electricity, library, internet, and cafeteria), curriculum and content of the courses given, peer pressure, quality of educational service, student placement of department practices, and evaluation criteria (like mid-term, final exams, quizzes, presentation)...etc. are not related to academic performance of students.

Conclusions and implications

The objective of this study is identifying the factors that influence the academic performance of undergraduate students in Eritrea. The study employed four variables—namely admission points, socio-economic factors, personal factors, and college environment to establish if a relationship exists with performance of students. The results of this study offered some empirical support for the existence of a relationship between academic performance and some of the variables used in the regression model. The study found out that admission points and personal factors are positively related to academic performance.

Generally, 'admission points' indicates that the higher the matriculation results the higher (better) performance at the college level. This result should be treated with caution as experiences show that there are students who joined the colleges with relatively lower matriculation grades but later perform exceptionally and others who enter the colleges with higher results then academically dismissed. However, the general tendency is that the lower the 'admission points' the higher the chances for academic failure in colleges as evidenced in very recent years. In fact, this result has significant policy implications, which calls for policy makers to raise the current level of admission points.

In addition, 'personal factors' imply that having clear vision, motivation to learn in college, and being future oriented and forward looking are the ones influencing academic performance of students. That is, those students who are interested and attentive in their studies perform better in their academy. It has also been reported in other studies elsewhere (see Bos and Kuiper, 1999) that students' mind-set towards a picky course has a positive impact on academic performance. It is all about the mind set, vision, and positive thinking of the students that affect their academic performance.

Finally, this paper contributes to our understanding of the factors influencing academic performance of students. The results presented are mixed where some have significant influence, while others do not influence academic performance of students as expected. The findings of the present study offer important academic implications that merit further study. Why the overall 'college environment' is not influencing academic performance despite the fact that the colleges are insufficiently equipped with teaching and learning facilities? Why there is no any relationship at all between 'socio-economic background' of parents and academic performance?

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