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Analysis of Factors Affecting the Academic Performance of Preparatory School Students (In Case of Sawla Secondary and Preparatory School)

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Abstract: The main objectives of this study was to identify the determinants or factors that affect the educational performance of the students in Sawla preparatory school, specifically: to examine the level or performance of students in Sawla preparatory School. To examine the personal, economical and administrative factors that hinders the academic performance of students in Sawla preparatory school. In order to achieve the derived objective both primary and secondary data were used. The primary data were collected from 90 sample students through separate structured questionnaire from preparatory students of Sawla preparatory school using the simple random sampling technique. The secondary data was collected from office of school director records, internet, books and other different source which are published and unpublished. Linear regression model and descriptive analysis were used to analyze the data collected from respondents. the finding of the Linear regression model reveals that: the average grade point of students was positively and statistically significant affected by: Annual income, class attendance, family occupation, study hour, reference book and place of study. Negatively and significantly influenced by family size based on the finding of the study the researcher has concluded that: by making all other explanatory variable constant family size of the students an important variable affects the student achievement. The researcher also recommended that government also more concerned about education service by method different support like reference book and building of class.

Keywords: Average Grade Point, Academic, Performance, Multiple Linear Regression

1. Introduction

All countries of the world and specially the sub- Saharan Africa (SSA) country have come to realize the importance of education for national developments. In developments of human resources, it is education, which holds the key to human progress. Hence, education is regarded as the basic for all round development of the men, society and Nations in general. Also education is a systematic process through which a children or an adult acquires knowledge, experience, skills and sound attitude. It makes the individual perfect. Every society gives importance to education because it is a panacea or remedy for all evils. It is the key to solve the various problems of life [6].

In Ethiopian also quality education was the primary focus of different aim to the government for countries. The socio-economic development of many countries was strongly linked with education. Basic education especially helps to reduce poverty through its effects on population growth rate, health, and nutrition and by equipping people to participate in the economy and society. Literacy and numeracy have been central to the Ethiopian school curriculum since permanent free general education was introduced after attaining a democratic government. Regardless of state requirements or curriculum history, the acquisition of adequate literacy and numeracy skill was a vital educational outcome for young people. Such skills have consequences for further study, labor market experiences and, more generally, social

wellbeing. Today, there was still much focus on the literacy and numeracy skills of students in Ethiopian schools, [1].

The students are admitted to or get into preparatory with in different or various admission points from different socio-economic backgrounds and from various school backgrounds. Also in South Nation Nationality region students came to the preparatory school from different school backgrounds or from both private and public schools and from the various family or economic backgrounds. When they get into preparatory levels, the management of the schools or preparatory transform them through the process of teaching and learning and the students output is seen through their academic achievement or results [2].

Sawla preparatory school is one of the Gofa zone sschool that found in South Nation Nationality region and the Students' academic performance will be determined by different factors like study hours of the students, reference books, annual income of the family, shortage of classroom, interest of student, family size and other factors. In spite of these, the degree of influence of the factors on the students' academic performance varies highly from person to person and place to place (MSC) (Heneveld & Craig, 1995) Hence, this Study was examining the specific factors that affect students' academic performance in Sawla Preparatory school.

As a world in general and in Africa and Ethiopia in particular the Students' academic gain or performance and learning is affected by numerous factors that including place of study, gender, family annual income, family size, employment opportunities, availability of reference books and soon. In Ethiopia there are a quite public investment in the school system more over the increase in the number of students in higher education is a national goal that have been pursued by educational policy. For instance, public spending on education, which during the 1980s remained under 10 percent of the total spending, had increased to 23.6 percent of the gross domestic product (GDP), one of the highest rates on the continents.

However, in spite of all the excessive government investment, failure to achieve a good performance is a major problem that affects all the level of education. In all levels of the education failure to a good performance affects many students. These problems is major concerns for those involved in higher or lower levels that including the preparatory school educations.

Since poor performance of the students exists at the preparatory level as it found in all levels of education it is a major issue it needs much concern. Student academic performance measurement has received considerable attention in previous research, it is challenging aspects of academic literature, and science student performance are affected due to social, psychological, economic, environmental and personal factors but study not addressed preparatory school, these factors strongly influence on the student performance, but these factors vary from person to person and country to country (Assen Ebrahim, 2015).

Different researches were conducted by different individuals within the country. The study that are cited by Engin- Demir, (2009) was studied at developed nation and this study woud be study at developing nation. For instance, Ali, B, (2015), Efrem (2016), these authors conducted on factors affecting students' academic performance in different areas of Ethiopia. They used only descriptive method of data analysis to analyze the determinants of students' academic performance; they used random sampling technique to select sample units from the target population.

These researchers failed to use econometric model to analysis the data. So this study was fill this gap by measuring the variables by using econometric analysis multiple linear regressions and also the researcher was use stratified random sampling in order to take the sample of the study and in Sawla preparatory there is no well organize study on these problems. And according to the study [3]. He studied about factor affecting of academic performances considered only on female students but, This study would be considered on both male and female students factor that are affect their academic performance. So this study primary designed to fill gap and conducted to examine factors affecting academic performance in Sawla preparatory school by taking class attendance gender, and place of study in to account as a factor that affects academic performance of preparatory schools in Sawla preparatory school that not included as a factor in the research conducted by the research [4]. Based on the sated problem above, the following questions are raised:

1) What is the academic performance of the of the students of the students in the study area?
2) What are the major determinants of students' academic performance in Sawla preparatory school?
3) HOW compare the academic achievement of social and natural science students?

The general objectives of this study were to identify the determinants or factors that affect the educational performance of the students in preparatory school. Specifically the study was aimed to:

1) Determine the status of students' academic performance in Sawla preparatory school.
2) Identify the main determinant of student the academic performance study area.
3) Compare the academic achievement of social and natural science students.

The study was open some clue about the determinants of educational performance of students in preparatory schools. Thus, it is useful to other researchers who want to have further investigations into the socio-economic challenges of the students in higher education institutions. It also serves as an input for policy makers or other concerned bodies to design effective policies to improve educational achievements of the students in preparatory level.

2. Literature Review

Education is universally recognized as playing a key role in sustainable social and economic development. Regardless of the ideology underlying approaches to development, education is always cited as a priority area for attention and the investment resources. The benefit of education is by now

well established. Education improves the quality and quantity of the life of the peoples. It promotes health, expands access to paid employment, increases productivity in the market and non-market work, and facilitates social and political participation. Education benefits should be experienced by both sexes or both men and women's or it gives fair and equitable because education for both sexs are important in promoting economic growth and development. [5]

Education is one of the most important factors that determine the development of the society or country due to different factors. Education services are often not tangible and are difficult to measure because they result in the form of transformation of knowledge, life skill and behavior modifications of learners [6]. So there is no commonly agreed upon definition of quality that is applied to educational field.

Education is the process by which people acquired or gets knowledge, skills, hobbies, values, or attitudes. The word < Education > is also used to describe the result of the educational process.

Ministry of education Ethiopia MOE, s (1996) defined education the process by which as successive generation of the people take their place in the history.

The education policy EEP (1994) defined education the process by which human being transmits his experience, new findings and the values accounted over the years, in his struggle for survival and development through generation.

The educational philosophers gave a wider definition of the world education and according to Adam smith education is the system of values which takes pride of place, a means of spiritual expression and a symbol which enriches individual development and fulfillment of adhesion to the culture. Education independent of it's social, financial or institutional costs is the scared process by which marking progress raises himself and aspires towards universal unity (Sylva in, 1989). Teachers' professional support constitutes uncountable actions and activities that improve student outcomes ((Mudau, 2016). In the same way, parents can also play a vital role in their children's education. Regarding this, Henderson and Mapp (2002: 7) explains that "students with involved parents, no matter what their income or background, were more likely to earn higher grades and test scores and enroll in higher-level programs; be promoted, pass their classes, attend school regularly with better social skills and improved behavior so as to go on to post general secondary education". Academic performance, as demonstrated using scores on tests, has over the years been used to determine the competence of a student in a course. The Grade Point Average (GPA) is a measure of a student's average academic performance across the courses being offered in any given semester [7]. It incorporates all the learning outcomes expected of a student in his/her courses. Also points out that the GPA is a more generally used measure of academic success, and thus allows it to be compared with other Page 8 studies where measurement of academic performance is one of the study variables. It is for the above reasons that this study has made use of the GPA as the measure of academic performance.

Ministry of education Ethiopia (*BASIC EDUCATION SECTOR ANALYSIS REPORT-ETHIOPIA*, 2012) stated that <the learning environment is determining factors for students> performance and survival at any given educational level. More factors related to institutions and learning environment was: Existence of policies that protects the right of individuals from dangerous.

G. Egodawatte [8] argue that the school environment, teacher's attitude and pedagogy, and other learning materials are affecting the performance and attainability of the students.

Regarding the relationship between school resources and students' academic achievement measurements was inconsistent. Some school research has suggested that more resources don't necessarily yield performance gains for students Other research evidence indicated that variations in school characteristics are associated with variations in students outcome [9].

Among others, Academic performances of students' are used to measure quality education. The academic performance of students can be measured in terms of past examination performance and performance midterms. Academic performance can be measure din terms of performance in tests and course work. The most significant and suitable way to measure the performance is the Cumulative Grade Point Average [10].

Students characteristics refers to student well-being, perception of the school environment, motivation, involvement in scholastic and co-curricular activities and perception of students on parental support and involvement, and locus of control in all areas have significant effects on students' academic achievement (Engin-Demir, 2009). Konu and Rimplela (2002) cited in Engin-Demir (2009), there are four areas of well-being dimensional phenomenon of the students conceptualized as school condition, social relationships, and means for self-fulfillment and health status, which affects both their behavior and their results.

Student's well-being in school depends upon the other factors involving their opinion on rules and regulations of school and relations with their teachers and school mates. In addition, scholastic activities and individual efforts are important for educational achievements. Regardless of intelligence students spent more time on doing assignment; project works, home works and class works are too crucial activities to improve their results or achievements in grades. Students amount of time invested on home works and other related activities has also found to be strongly concerning to a student's motivation to achieve or get and their positive feelings with achievement have positive effect on actual educational achievement (Debele, 2018) In addition, school attendance has highly correlation with individual academic achievements. In relation, students' academic or performance achievement motivation is influenced by the students perception of parental support and involvement, they was achieve well (Grolnick and Slowiaczek, 1994; Wang and Wildman, 1995). Engin- Demir (2009: 19) argued as; student's perceptions that their parents are involved and interested in school and encourage them to do well are positively related to educational achievements. Parents convey the message

through their involvements that school is crucial and get their children with positive and good emotional experiences in relations to school, Funchs and Wobmann (2004) observed that students performed significantly worse in reading and in schools whose principals reported that learning was strongly hindered by the lack of parental support. However, some research has shown most aspects of the relationship between educational support of parents and scholastic achievement of children to be negative.

Family Related Factors

Robinson (1993) and Engin-Demir (2009) argued that sizeable research has consistently shown that students educational achievements has influenced by background of family characteristics such as socio -economic status of parents, level of education, family or parental occupations and monthly income that the students get from the parents. From these factors parental level of education and income have been the most significant source of the student's disparity in their educational achievements, on the other hands students from economically disadvantaged families and families where parents had less level of education have systematically performed worse than other students. Schiller et al. (2002) also argued that regardless of national context, parents who have more educated appear better able to provide their children with the academic and social support are crucial for educational success when compared to parents with less educated.
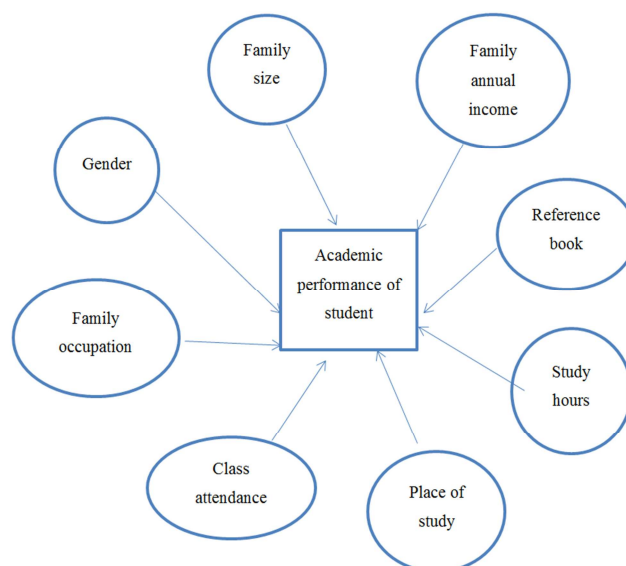
In other ways poverty, low level of parental education, parental and neighborhood negative attitude towards schooling in general, students from among economically disadvantaged background have significantly poor in educational achievements (Currie, 1995; Gregg and Machine, 1999). Whereas students with high level of parental education have greater access to a wide variety of economic and social resources (family structure, home environment, parent child-interaction) that can be drawn upon to help their children succeed in school (Coleman, 1998, 1991, 2006; Mac Neal, 1999). Higher family income is associated with high level of educational achievements (Hanushek, 2004). The writers argued that several studies have demonstrated that an increased number of children in family or house hold to less favorable student's outcome or achievements, it was reasonable to suppose through the mechanism of resource dilution (Blake, 1989). Children from the larger families have been found to have less favorable home environments and lower level of verbal facility or parcel and Mangham, 1994) as well as highest rates of behavior problem and lower level of educational achievements [11].

In contrast, as cited by Engin-Demir (2009), in developed nations cross-national research has indicated, the relative effects of home and school have relationship between child's social background or (parents education, family structure) and his or her academic achievement is stronger than of developing nations. Whereas, school- related factors have been found to be more significant that out of school factors in explaining achievement variable in developing countries (Khairuzzaman, 2016).

Conceptual Frame Work

Based on the literature review, students' academic performance would be studied by adopting a multiple perspective, which implies factors affecting academic performance of preparatory student in the study area. According to Kavuma (2003), the education of students is affected by different factors such as family occupation, reference book, study hours, place of study, and demographic factors (gender, family size, annual income).

Therefore, the factors that affect the academic performance and performances of students can be classified in numerous ways. Some of these factors that affect students' education are related to family related and institutional factors. Thus, the particular research study, the relationship and the influences of the independent variables on the dependent variable was help to analyze the valid results. Hence, the conceptual framework diagram of this study is indicated in figure below.

Source: own on diagram (2022)

Figure 1. *Conceptual framework.*

3. Research Methodology

3.1. Research Design

This study was conducted by using experimental research design which deals with a procedure for a devising an experimental setting such that a change in dependent variable may be attributed solely by the change in an independent variable. In other words, experimental design is the procedure that allows experimenters to control for the effects on the dependent variable by an independent variable. In this way the researcher is assured that any change in the dependent variables was done by the change in the independent variable. In addition to this the sampling design was also used. It is the method of selecting items to observe for a given study. The study took the quantitative approach because it was been based on variables measured with

numbers and analyzed with statistical procedure.

3.2. Source of Data and Method of Data Collection

The data used for this study are both primary and secondary data throughout the whole research. The data are Collected from these two sources assist by providing reliable information and better understanding on the variable employ in this study. Primary data is obtained from the sample student selected from target population through distributing structured questionnaire while information that obtained from journal and other published documents are secondary data.

3.3. Sampling Design and Techniques

3.3.1. Target Population

The research analysis the factors or determinants that affect educational performance of preparatory school students in Sawla preparatory school. There for the populations are the students in the school and account the total of 887 students. The total number of the students is divided into natural science and social science streams. Out of the total students 365 students are social science and the left 513 students are natural science students (380 male and 133 females). From the social science of 365 students about 269 male students and 96 female).

3.3.2. Sampling Techniques and Sample Size

The sampling technique that is employed in the study is probability sampling technique. From this method of sampling stratified random sampling technique is used because this sampling method divides the population into homogeneous group since for the target populations have heterogeneous characteristics. They spilt in to two as social science and natural sciences students and this method is important to divide in to two strata. After the population is divided into the strata, the sample is selected from each stratum by using simple random sampling method.

Hence, for this study the sample size would be selected from 887 preparatory students using [12] formulas at 10 percent level of significance or error terms.

$$n = N/1 + N(e^2)$$

Where: n √ total sample size
N √ total population
e √ level of precision/ significance/ error terms
Given: N = 878
e = 10%
$e^2 = 0.01$
Solution: √ $n = N/1 + N(e^2)$
$n = 878/1 + 878(0.1^2)$
$n = 878/1 + 878(0.1^2)$
$n = 878/1 + 8.78$
$n = 878/9.78$
$n = 89.77 \sim 90$

In order to take sample from each batch and department the following procedures will be used:

$$n' = N' * n/N$$

Where: n' √ sample size of individual grade
N' √ Number of individual population
n √ total sample size
N √ total population

Table 1. Provides the sample size from the two individual grade.

Population batch/ grade	Department	Number of students	Number of sample size	Percentage
Grade 11	Social science	215	22	24.48
Grade 12		150	15	17.08
Grade 11	natural science	371	38	42.255
Grade 12		142	15	16.173
Total		878	90	100

Method of Analysis

The study use both descriptive and econometrics method of analysis. The descriptive methods were used to summarize the data in the form of tables, frequencies, percentage, and chi square and T-test for association between dummy and continuous variable respectively. Concerning with econometrics analysis multiple linear regressions will be used to address the research question of the study because the dependent variable (academic variable) is continuously measured as the average pass mark point of the student.

3.4. Model Specification

This part involves identification of dependent and independent variables of the model and putting them in the mathematical form or functional form of the relationship and the nature of causation between dependent and independent variables of the model and determining the expected signs and magnitude of the parameters.

Dependent Variables:

This was the student's educational performance which is measured by the Average Pass Mark of the students (APMs).

Independent Variables

The independent variables are a variable which determines the educational performance of the students. Those variables can be: gender, place of study, study hours, reference book, and annual income of the family (assume the students from high income family background perform better than students from law income backgrounds), family occupation, class attendance, family size (yes b/c less family size and large family size are not equal to success the student necessary material or wants), and other factors.

$$APMs = Bo + B1X1 + B2X2 + B3X3 + B4X4 + B5X5 + B6X6 + B7X7 + B8X8 + B9X9 + UK$$

Where: APMs √ educational performance of the students measured by the Average Pass Mark of the students.

X1 √ Gender

X2 √ place of study

X3 √ study hours

X4 √ reference book

X5 √ annual income of the family

X6 √ family occupation

X7 √ class attendance

X8 √ family size and

Ui √ is the independent variables that are excluded from the model.

3.5. Hypothesis of the Study

Many academic and non-academic factors may affect the academic performance of preparatory students. Academic factors includes: self-learning effects, time spent on study, students previous result; while non-academic factors are those like health factors, personal factors, financial factors and environmental factors.

Based on this the following hypothesis was tasted;

Ho: The null hypothesis shows the net effects of listed factors are or not significantly affect the academic performance.

Ha: The alternative hypothesis specifies the factors that was consider as determinants of students' academic performance was significantly affect the student's academic achievement in preparatory level.

3.6. Variable Description

Gender: it is dummy variable. It explains the effects of gender difference or maleness and femaleness of the students on the educational performance of student. The study assumes being females are affects negatively the academic performance of the students. It is known that male students are better in academic performance or achievements than female students in all level of school or female students are per formless than male in academic achievements.

Place of Study: it is dummy variable. This states that how the place of the study of the students such as, library, in school, or at home and others are affects the academic achievements of the students in school (positive sign).

Study Hours: it explains about how many the students study per day. The more time the students having or spends on the study, the better was successful in academic achievements or results. Study hours positively affect achievement in education.

Reference Book; it is dummy variable that explains about the availability of the reference books in the school or library (in home all family are not equal income). The available reference books in the library lead the students the better in their academic achievements or results. The reference book affects academic performance of the students positively.

Annual Income; it is continuous variable; it states or explains the effect of family income on academic performance of the students in school. The study assumes the

students from high income family background perform better than students from low income family backgrounds (though questionnaires). High annual income of the family positively affects the academic performance of the students.

Family Occupation; this explains all occupations from which a family or house hold earns their means of livings. Thus, it was considered as categorical variables. This variable was also assumed to have positive relationship with the academic performance of the students.

Class Attendance; it states about the students attending the class affects the academic performance (the source get from respond at and non-respondent). The study assumes the class attendance of the students as positive factors. Students who attend the class are better in academic achievements than the students absent from the class.

Family Size; this refers to total number of the children in the house hold. A resource dilution was the amount of time and quantity of material resources that parents are able to invest in their children. When the number of children increases, parents can offer fewer resources per child. The variable was assumed as categorical variable and thus, the number of children in the house hold was expected to have a negative impact on the academic performance of the students in the preparatory school (from respondent and other non-respondent).

Residuals; this explains the unexpected part of the model or those variables not included in the model other than under the error terms.

3.7. Specification and Estimation Techniques

3.7.1. Multi Collinearly Tests

According to the research [13] multicollinearity refers to how the explanatory variable correlated if there is a multicollinearity problem in our model it is really very different to conclude how the explanatory variables affect the dependent variable.

It also makes the stilt fed regression coefficients to have the wrong signs, smaller to wrong conclusions. Test its vif in the stata regretion.

3.7.2. Hetroscedasticity Test

It is test of the variance of Ui whether to have a constant variance or not if the error term doesn't have a constant variance there is Hetroscedasticity problem. It makes estimated parameters consistent but inefficient in this study the breach pagan test will be employed and the decision rule is that if the P- value is sufficiently small (i.e if be chosen significant level 10%) then the null hypothesis of homoscedasticity (constant variances) will be respected [14].

3.7.3. Omitted Variable / Model Specification Test

In this test using Ramsey rest, whether the model has omitted variable or not will be performed. The decision of this is if P-value is higher means that there is no omitted variable specification problem), other miss the model is omitted variable (specification problem) [15].

3.7.4. Normality Test

Since the obese tike of the study is estimation as well as hypothesis testing to specify the probability distribution of the disturbance farm (Ui) of which the OLS estimators of bus are linear function of it. The CNIRTY assumes that each Ui is distributed normally with mean E(Ui) is zero and variance E(Ui)2 is one with the normality assumption) the probability distribution of OLS estimators can be easily derived, because one property of the normal distribution is that day linear function of normally distributed variable is itself of the disturbance term, normal probability plot, histogram of residuals means and variance test [15].

4. Result and Discussion

This chapter involves the result obtained from the study and inferring the proper interrelation. The result was found from the research on analysis of factors affecting the academic performance of sawla preparatory school study. It was discussed using descriptive and econometrics method of data analysis.

4.1. Descriptive Analysis of the Data

Descriptive analysis was the use of statistics to describe the result of all experiment or investigation. It was used to describe the characteristics of the data in research and provides simple summaries about the sample.

Table 2. Summary of descriptive analysis for continuous variables.

Variable	Mean	SD	Mean diff	T value
Anninc	61433.33	91204.82	61357.84	6.3825***
Family size	5.7	2.288946	69.62921	55.8009***
Grade	11.5	0.502343	64.01111	59.9795***
Age	18.1	0.98566017	57.41111	54.1923***
Stdhrs	4.2	1.518246	71.27444	72.5796***

Source: own survey *, 10%, **, 5% *** 1% level of significance.(2021)

Age: the above table 2 show that the mean age of respondent was 18.1. The standard deviation of age 0.985660. The t-value was statistical significant at 1% level of significant, that implies the variable age has positive effect on student academic achievement. This is because as age of the student increase, their level of understanding will increase, they will get good awareness about the importance of education.

Annual Income: from the above table show that the mean annual income of the respondent's family was 61433.33. The standard deviation of annual income is 91204.82. the t-value was statistical significant at 1% level if significant implying that the variable annual income has positive association with the dependent variable average grade point of students. This implies that families with high annual income are providing their students by fulfilling all the necessary school materials such as books, calculator cloth, food and so on and this encourages their children to be academically excellent.

Family size: from the above table 2 one can understand that the respondent mean family size was 5.7. The standard deviation of family size 2.288946. the t-value was statistical significant at 1% level of significant that implying the variable of family size was negative effect on the student average grade point, because household who have large family size may buy more basic needs like food hour and cloth filled to educates their family size and if the get in to the school they are failed to support their family this indicate that family size and education has inversely relation.

Study hour: the result above in the table show that the respondent means study hour 4.2 the. Standard deviation of study hour was 1.518246. The t-value was statistical significant at 1% level of significant. That implying study hour was significantly and positively related with average grade point. Because when students åre study more their average point also increases. This study indicates that study hour increasing also relevant for increment of education.

Table 3. Summary of descriptive analysis for categorical variables.

Variables		Class attn				Chi 2
		Yes		No		
		Frequency	Percentage	Frequency	Percentage	
Sex	Male	33	75	11	25	27.7669**
	Female	9	19.57	37	80.43	*
Plc stu	Home	13	30.95	25	52.08	4.1**
	Library	29	69.05	23	47.92	
Refbook	Yes	23	54.76	22	45.24	0.7143
	No	19	45.24	26	54.17	
Famocup	Yes	23	54.76	19	45.24	2.0735
	No	19	45.24	29	60.42	
Stream	Natural	23	54.76	26	54.17	0.0032
	Social	19	45.24	22	45.83	

Source: own survey 2021 *10%. **5%. ***1% level of significant (2021)

Sex: from the above table 3 the most f respondent who are male is 75% and females are 25%, this indicates that female's participation on education are less, at result of chi-square analysis show that there is 1%level of significant association between education and sex are corelated.

According to this study female participations are less than male because of different family pressures on female students in the community as well as premature marriage and backwardness.

Place of study; show the table 3 most of the respondent's

study place is at home which. accounts 30.95% and also there are respondents who study at library which is 69.05% this shows that most of the respondent place of study was at library which have a large percentage (69.05). Based on the result of the chi-square analysis it is significant at 5% this shows that there is significant association between education and study place. pace cannot disturb because of any keep secret person and another reference book to available study place.

Table 4. Compare the academic achievement on stream.

Social	mean	Std.Dev	Min	Max
Averagpt	76.65	9.62	54	95
Natural	76.28	10.57	57	97

Sources: own computation

Stream: as the table 4 show as the natural steam max result is 97 and the min is 57 in the other way in social steam max result as 95 and min 54. this show that educational achievement in natural steam is great compared to social steam. because of natural students more concentrated than social students' aspect about education and they study for long hours.

4.2. Econometrics Result of Multiple Liner Regression

Table 5. Regression Analysis Results.

No	Variables	Coefficients	P>t	T v
1	Famsiz	-1.175679	0.001	-3.50
2	Clsattn	6.967791	0.000	4.44
3	Fam occup	3.383834	0.005	2.88
4	Stdhrs	0.8746748	0.069	1.84
5	Age	1.078306	0.071	1.83
6	Sex	4.495075	0.002	3.25

Source: Own computation stata 11 (2021)
No of obs = 89
F(11.77) = 22.69
Pro>F = 0.0000
R-squared = 0.7641
Adj R square =0.7305
Root MSE = 5.2389

4.3. Discussion on Significant Variables

Genders: from the above table 5 the most of respondent who are male is 49.5% and others are females this indicates that females participation on education are less, at result of t-test analysis show that there is 5%level of confidence interval. According to this study female participation are less than male because of different family pressures on female students in the community as well as premature marriage and backwardness.

Age: age measures of students at preparatory level and age of students expected positively effect in student achievement in education. As the age of students goes the ability of students analysis improves and students able to perform was in education as age go higher. As age increased by 1 the other thing remains constant, student's achievement increase by 1.07 at 5% level of degree significance.

Family Size: the size of the family of the student is an important variable which affects the student's achievement. It was measured continuous by taking the number of the family included in household of the student As revealed in the table above it has negative effect on the student's average grade point. The increase in family size by 1, other things remain constant, student achievement decrease by 1.175 which is significant at 1% level of significance, this indicates that family size and education has inversely relation.

Class Attendance the result of the multiple regressions Model shows that, students who are usually attending the class were 6.97 times higher in academic achievement than those who were sometimes absents in the class other things remains constant. This is significant at 1% level of significance, this indicates that protection of class attendance has a positive effect on education and it also appreciated activities for growth of education.

Family occupation. The occupation of the family is one of an important variable which affect students achievement. It was measured continues by taking the occupation in the family of students as revealed in the table. It has appositive effect on improvement of education. When we see this table if family occupation increase that the other things are remains constant, student achievements increase by 3.38 at 5%, level of significance. this, statement indicates that family occupation has role to increase education level.

Study hour. study hour of study is explain how many hours study per day, the more time students spend on study the better was successful in academic result. Studding hours positively affect achievement in education. When the students study hour increase by 1 other things remains constant student's achievement is increased by 0.87 at 10% level of significance. This indicates education and study hour has direct relation. Because when students are study more their average point also increase. this study indicates that study hour increasing also relevant for increment of average grade point.

5. Conclusion and Recommendations

5.1. Conclusion

The study concerned with factors that affect or determines the educational performance of preparatory school students in sawla and the study identifies different factors that positively affected the educational performance of the students in preparatory. Also the study suggests or implies family occupation, study hours of the students, class attendance, and stream, gender, reference book, annual income and place of study, have positive relationship with educational performance of the students, as opposed to that of other variables that negatively affects the academic performance of the students like, family size or number of households,. As the regression result shows study hours are positively and significantly affects the academic performance of the students. By making all other explanatory variable constant, as the students' hours of study increase by 1 hour

the average result of the student's increases by 0.069 points and this is significant at 10% level of significance. That is, by making all other explanatory variable constant, family size of the students an important variable affect the student that increase in family size by 1 other things remain constant, student achievement decrease by 1.175 which is significant at 1%levelof significant, it indicate that family size and education has inversely relation.

5.2. Recommendations

Based on the studies finding and the conclusion, the researchers puts or derives many recommendations; This research provides an in depth study on the determinants of academic performance of the students in sawla preparatory school. The researchers recommended as follows:

1) As this study implies or suggested that the students who come from the parents with high annual income are better than students who come from the parents with low annual income in their academic achievement. This is because students with their parents have high annual income are come up with fulfilling their material for education. Therefore, this study advice the parents of the students as they are accumulated their wealth that leads them to increase their annual income and this have direct relation with academic performance of the students positively and significantly.

2) The study also recommended on the hours of the study of the students. As this study implies hours of the study affect the academic performance of the students positively and significantly; i.e. when the hours of the study increased or decreased by 1 hour the average result of the students are increased or decreased by some points. Therefore, the study advices the students as to increase their hours of the study per day that affects their academic performance in the school.

3) The researcher also recommended that government also more concerned about education service by method different support like reference book and building of class.

Abbreviations

ACRONOMY ARS: Average Results of the Students,
CSA: Central Statistical Agency,
ESD: Education Sector Development Program,
GDP: Gross Domestic Product,
MOE: Ministry of Education,
OLS: Ordinary Least Square,
SSA: Sub-Saharan Africa,
UNICE: United Nation Children Education Fund.

Appendix

```
. reg averagpt famsiz clsattn famocup anninc refbook stdhrs plcstu stream grade age sex

      Source |       SS           df       MS            Number of obs   =        89
-------------+----------------------------------       F(11, 77)       =     22.69
       Model |   6849.388         11   622.671636        Prob > F        =    0.0000
    Residual |  2113.37605        77   27.4464422        R-squared       =    0.7642
-------------+----------------------------------       Adj R-squared   =    0.7305
       Total |  8962.76404        88   101.849591        Root MSE        =    5.2389

------------------------------------------------------------------------------
    averagpt |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      famsiz |  -1.175679   .3363539    -3.50   0.001    -1.845445   -.505913
     clsattn |   6.967791   1.569249     4.44   0.000     3.843016   10.09257
     famocup |   3.383834   1.176572     2.88   0.005      1.04098   5.726689
      anninc |   .0000105   6.67e-06     1.58   0.118    -2.74e-06    .0000238
     refbook |   .8833637   1.194112     0.74   0.462    -1.494417   3.261144
      stdhrs |   .8746748   .4747541     1.84   0.069    -.0706814   1.820031
      plcstu |  -.8037933   1.192883    -0.67   0.502    -3.179128   1.571541
      stream |   1.985578   1.214286     1.64   0.106    -.4323735   4.403529
       grade |  -.9329316   1.169097    -0.80   0.427    -3.260901   1.395038
         age |   1.078306   .5896968     1.83   0.071    -.0959301   2.252543
         sex |   4.495075    1.38102     3.25   0.002     1.745113   7.245038
       _cons |   60.99397   15.80744     3.86   0.000     29.51734   92.47061
------------------------------------------------------------------------------
```

Figure 2. STATA result.

Figure 3. *Multicollinearity test.*

Figure 4. *Model specification test.*

Figure 5. *Testing Omission of relevant variable.*

Figure 6. *Heteroscedasticity test.*

```
. vce, corr

Correlation matrix of coefficients of regress model
```

e(V)	famsiz	clsattn	famocup	anninc	refbook	stdhrs	plcstu	stream	grade	age	sex
famsiz	1.0000										
clsattn	0.3821	1.0000									
famocup	0.2344	0.0317	1.0000								
anninc	0.0283	-0.1326	0.0407	1.0000							
refbook	-0.1272	-0.0723	-0.0537	0.0122	1.0000						
stdhrs	0.3236	-0.1126	-0.0297	-0.1118	-0.2478	1.0000					
plcstu	0.0527	-0.0787	0.0479	0.0772	0.0250	-0.1589	1.0000				
stream	-0.1548	-0.0086	0.0882	-0.0071	0.2570	-0.2722	0.0717	1.0000			
grade	-0.0605	0.0130	-0.0279	-0.0938	0.1893	-0.1191	-0.0026	0.1841	1.0000		
age	-0.0686	0.0494	-0.0098	0.0283	-0.0571	-0.0060	-0.1714	0.0421	-0.1585	1.0000	
sex	0.0496	-0.3706	-0.0125	-0.1607	0.0851	-0.1089	-0.0163	-0.0222	0.0536	-0.1074	1.0000
_cons	-0.0850	-0.0980	-0.0347	0.0532	-0.1233	-0.0197	0.0848	-0.1877	-0.7334	-0.5208	0.0125

e(V)	_cons
_cons	1.0000

Figure 7. Correlation matrix for dummy variables.

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