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Full Length Research Paper

Gender disparity analysis in academic achievement at higher education preparatory schools: Case of South Wollo, Ethiopia

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Gender is among the determinant factors affecting students' academic achievement. This paper tried to investigate the impact of gender on academic performance of preparatory secondary school students based on 2014 EHEECE result. Ex post facto research design was used. To that end, data were collected from 3243 students from eight purposively selected schools. The analysis has been undertaken quantitatively using independent samples t-test, one sample t-test, Pearson correlation coefficient, Chi-square test, ANOVA and linear multiple regression. The findings revealed that there is statistically significant difference between male and female students favoring the former. Sample mean is statistically higher than regional and zonal mean scores. A statistically significant difference among sampled schools has been observed. Younger students have scored significantly higher result than the older ones. The proportion of male students in the upper achieving groups was significantly higher than females and the opposite was true for low achieving groups. More effort is needed by concerned bodies so as to narrow the gender disparity. Furthermore, additional studies should be conducted to investigate the performance differences among schools.

Key words: Gender, academic achievement, preparatory secondary schools, t-test.

INTRODUCTION

Education is considered as a first step for every human activity and the development of any country relies largely on the quality of education. It plays a vital role in the development of human capital and is linked with individual's well-being and opportunities for better living (Memon et al., 2010; Farooq et al., 2011; Ababa et al., 2012). As a result, educators, trainers and researchers have long been interested in investigating variables contributing effectively for quality of performance of learners (Farooq et al., 2011). Students' academic performance is affected by hosts of inside and outside factors. These include individual and household characteristics such as age, gender, geographical belongingness, ethnicity, marital status, socioeconomic status, parents' education level, parental profession, language, income, religious affiliations, student ability, motivation and the quality of school. Gender differences in attitudes, parental as well as teacher expectations and behaviors, differential course taking and biological differences between the sexes may all be instrumental in giving rise

to gender differences in achievement (Dayioglu and Turut-Asik, 2004; Farooq et al., 2011). Gender differences in academic achievement have been among the contemporary issues in the current academic debate all over the world (Abdu-Raheem, 2012).

Different studies have been conducted to investigate the impacts of gender on academic performance at different levels (elementary, high school, college and university) and on different subjects (mainly Mathematics, English, Sciences and CGPA). The findings are not conclusive. A study by Fergusson and Horwood (1997), Evans (1999), Lauzon (2001), Linver et al. (2002), Fortin et al. (2003), Dayioglu and Turut-Asis (2004), Abu-Hola (2005), Erdem et al. (2007), Gibb et al. (2008), Farooq et al. (2011) and Voyer and Voyer (2014) revealed that females performed better than their male counterparts and results were statistically significant. On the contrary, Bassey et al. (ND), Ewumi (ND), Jovanovic et al. (1994), Maliki et al. (2009), Awofala (2011), Doris et al. (2012), Udida et al. (2012) and Oluwagbohunmi (2014) disclosed that male students performed better than females and the results were statistically significant. On the other hand, no gender based statistical significant differences were found by Odeh (2007), Mlambo (2011), Abubakar and Adegboyega (2012), Abdu-Raheem (2012), Kangahi et al. (2012), Gupta et al. (2012) and Josiah and Adejoke (2014). A study by USAID (2005) pointed out that females outpaced males at the lower grade levels while the findings were not consistent at upper grade levels. A similar study in Ethiopia by Tasisa and Tafesse (2013), in colleges of teacher education, found a statistically significant gender difference in academic performance favoring the males. During 2010 academic year, the proportion of females in the first top ten ranks (in grade 12 of Memhir Akalewold higher education preparatory secondary school was) only 20.5% (compared to 79.5% of males). But it reaches 35.3% in 2014 (increased by 14.8%). Similarly, a survey study in Dessie city administration found that female students in grade eight (school based examination) consist of 56.6% of the first top ten ranks and 57.3% of the first top five ranks. Likewise, the proportion of females from the top ten percent in grade 8 regional examination during 2014 academic year was 57.4% while it was only 48.1% (as compared with 51.9% of males) from the bottom ten percent. All these circumstances triggered the researcher to further examine the effect of gender on academic achievement. This research, therefore, tried to look into the impact of gender on academic achievement based on 2014 EHEECE result in South Wollo, Ethiopia.

REVIEW OF RELATED LITERATURE

Women's education plays a vital role in their economic, socio-cultural and political empowerment. Murphy and Carr (2007) stated that girls' secondary education is a tool for poverty alleviation and sustainable development. They added that, women secondary education results in social benefits to the whole society like increase in civic and political participation, lowered levels of sexual harassment, and reduced sexual and labor trafficking of young women. Taking all these significances of women education into account, world leaders have decided to narrow the gender disparity in primary and secondary education, preferably by 2005 and to all levels of education no later than 2015 (target 4 in the second goal of MDGs). Though some promising successes are recorded, the disparities in most nations especially in secondary and tertiary level are wide (UN, 2014).

Hosts of factors affect the enrollment, retention and achievement of women in the educational world. An important factor explaining the relatively low access of females to the educational system is the traditional value system placing greater premium on males than on females (TGE, 1993). A study by UNESCO (2012) disclosed that, in Ethiopian males have more access to education than females and greatest disparity is found in secondary education and above. The study identified poverty, socio-cultural factors, gender-based violence, early marriage and teenage pregnancy as major barriers affecting women's access to and completion of education. In addition, school related factors like lack of motivated and gender-sensitive teachers, of girl-friendly school environments, the absence of targeted interventions to support girls and quality education, as well as long distances to schools are determinant causes for low enrollment, retention and achievement of females students. Poverty as a factor that excludes girls from education than boys was also mentioned by Okioga (2013), UN (2014) and Rotich et al. (2014). Rotich et al. (2014) underlined the impact of poverty as "*when resources are scarce and the children to be supported in schools are many, the parents ignore the girl- child*". A similar study in Kenya (Achoka et al., 2013) and in Ethiopia (Wakgari and Teklu, 2013) found that stereotypic gender role dispositions, early marriages and female genital mutilation were among the traditional and cultural beliefs which made girls to perform dismally in their academic endeavors. Rena (2007) also revealed that female dropouts in developing countries are more sever. The study added that "*girls continue to be discriminated against by the parents first with respect to enrollment in school and later in providing higher as well as better education*". Parents' educational and employment statuses; females' self concept and the differentiating expectation of parents have their own contribution in students' academic achievement (USAID, 2005; Memon et al., 2010; Okioga, 2013; Rotich et al., 2014).

MATERIALS AND METHODS

Description of study area

The study was conducted in South Wollo, Ethiopia. South Wollo

Table 1. Higher education preparatory secondary school enrollment rate (Grades 11-12).

Year	Ethiopia			ANRS		
	Boys	Girls	Total	Boys	Girls	Total
2008/09(2001E.C)	146547	58713(28.6%)	205260	38040	14747(27.9%)	52787
2009/10(2002E.C)	156194	86194(35.5%)	243080	41486	23372 (36%)	64858
2010/11(2003E.C)	169571	118645(41.2%)	288216	44694	30840 (40.8%)	75534
2011/12(2004E.C)	184913	138872(42.9%)	323785	47563	36106 (43.2%)	83669
2012/13(2005E.C)	199147	159346(44.4%)	358493	51422	41982 (44.9%)	93404

Source: MoE (2013:41).

administrative zone, one of the twelve administrative zones in Amhara National Regional State (ANRS), is located in the Southeastern part of the region between $10^0$10'-$11^0$41'N latitudes and 38 ^{0}28'-40^{0}05'E longitudes. It is bordered on the South by North Shewa zone, and Oromia region, on the west by East Gojjam Zone, on the Northwest by South Gonder zone, on the north by North Wollo zone and on the East by Afar region (ANRS-BoFED, 2009). During 2013/14 academic year there were 23 preparatory secondary schools in south Wollo with a total of 5617 students (3387 or 58.5% male and 2330 or 41.5% female). As depicted in Table 1, the enrollment rate of female students has been increased through time both at national and regional level. For instance, the proportions of female students at national and regional level have increased from 28.6 and 27.9% in 2008/09 to 44.4 and 44.9% in 2012/13 academic year respectively.

RESEARCH METHODS

Ex post facto research design (using already existing data) was employed in carrying out this study. Grade 12 Ethiopian Higher Education Entrance Certificate Examination (EHEECE) result of 2014 academic year has been used as a source of data throughout this paper. Preparatory secondary schools are transitions from secondary high school to university level and EHEECE result is considered as admission for higher institution. English, Maths, aptitude and EHEECE total result have been used in this study because they are compulsory subjects [are also frequently used indicators for academic achievement] and common for both social and natural science streams. EHEECE results are preferred to the school based examination results because standardized admissions tests are good predictors of performance in post-secondary programs (Lauzon, 2001) and can measure performance more consistently than examinations prepared at school level. Sex differences identified in the school based tests may reflect the effects and biases of the instrument (EACEA, 2010). As a result, standardized EHEECE result was used to examine the impact of gender on academic achievement.

Target population, sampling methods and samples

Students who took EHEECE in 2014 from South Wollo administrative zone were target populations for this study. EHEECE results from eight selected higher Education preparatory secondary schools were selected purposively based on their total number. Eight preparatory secondary schools that have more 250 students, namely Memhir Akalewold, Kombolcha, Haik, Sayint, Adjibar, Hotie, Wuchale17 and Borena were included in the study. These schools comprise 3243 (57.7%) of students out of 5617 who took EHEECE in South Wollo during 2014 academic year in regular program.

Research questions and hypotheses

The primary intent of this paper was to critically examine the gender gap in academic performance in EHEECE result. The central research question was 'Is gender gap in academic achievement really converging through time?' To that end, the following four hypotheses have been formulated and tested.

1. H_1: There is no statistically significant difference in academic achievements between male and female students in EHEECE result
2. H_2: There is no statistically significant mean differences in academic achievement among higher education preparatory secondary schools in EHEECE result
3. H_3: there is no statistically significant difference between the sampled mean with zonal as well as regional mean in EHEECE result
4. H_4: there is no statistically significant correlation between EHEECE total result, English, Maths and Aptitude results

Design of the study and data analysis techniques

Quantitative research methodology has been employed in this study. Data were collected from the master roster and different quantitative data analysis methods have been applied with the help of SPSS version 20 and Microsoft office excel 2007. Percentages, proportions and mean were used to describe the descriptive statistics. Proportion of males and females (10% of high and 10% of low achievers) in EHEECE result were taken and examined whether gender has impact or not using Chi-square test. Independent samples t-test was used to analysis the mean difference between male and female students while one sample t-test was applied to compare the mean result of sampled schools with zonal and regional average result. Mean differences among sampled schools and age groups were tested using one way ANOVA.

Correlations among English, Maths, aptitude and EHEECE total results were analyzed using bivariate Pearson correlation coefficient. Linear regression was applied to examine the effects of age and sex (the only dependent variables available in the master roster) over EHEECE total result. The effect size of t-tests and ANOVA were examined using Cohen's *d* and Eta squared respectively. Quantitative data analysis was substantiated with data gathered from archives and in-depth interview with school principals and supervisors. Finally, conclusions and plausible recommendations were drawn based on the major findings.

Table 2. Sampled schools and age distribution of students.

School Name	Mean	N	%	Age in years	N	%
Memhir Akalewold	325.72	665	20.5	16	5	0.2
Kombolcha	344.98	526	16.2	17	253	7.8
Borena	295.90	355	10.9	18	1097	33.8
Haik	296.28	335	10.3	19	980	30.2
Sayint	347.68	308	9.5	20	753	23.2
Adjibar	350.55	308	9.5	21	97	3.0
Wucahle17	308.33	275	8.5	22	41	1.3
Hotie	306.86	471	14.5	>23	17	0.5
Total	322.77	3243	100	Total	3243	100

Table 3. One sample t-test (comparison of sampled mean with regional and zonal means).

Mean EHEECE result	N	Mean	SD	MD	t	df	p
Regional (test value = 314.3)	3243	322.8	61.3	8.5	7.87	3242	0.00
Zonal (test value = 317.9)				5.3	4.89	3242	0.00

RESULTS AND DISCUSSION

Demographic characteristics

The results of 3243 regular students (1816 or 56% male and 1427 or 44% female) were analyzed in this study. The sampled students comprised 57.7% of students who took EHEECE in South Wollo in the regular program (see the proportion of students for each sampled schools in Table 2). The mean results of the region (ANRS), South Wollo Administrative zone and sampled schools were 314.3, 317.9 and 322.77 points respectively (out of 700). Adjibar preparatory secondary school has scored the highest point (*m* = 350.55) from the sampled schools while the lowest was scored by Borena preparatory secondary school (*m* = 295.9). Age of students ranges from 16 to 30 years old with an average of 18.9 years.

Major findings of the study

This part of the paper treated the major findings of the research mainly mean score difference of male and female students, comparison of sampled mean with the regional and zonal average, mean score comparison among the sampled schools and proportion of male and female students in the top and bottom achieving groups and correlation between EHEECE scores of English, Mathematics, Aptitude and total scores.

One sample t-test was conducted to compare the mean score of sampled schools to a population value (regional and zonal average). As depicted in Table 3, the mean score of the sampled schools was statistically higher than the regional (t (3242) = 7.87, p < .001) and zonal mean (t (3242) = 4.89, p < 0.001). The sample mean 322.8 (sd = 61.3) was significantly greater than the regional (314.3) and zonal mean (317.5). The mean difference between sampled mean and zonal mean (5.3 points) was smaller as compared with regional difference (8.5 points). Students of the sampled schools have performed better than regional mean.

An independent samples t-test was conducted to compare the mean scores of male and female students in EHEECE. A statistically significant difference in mean scores of EHEECE between males and females was found with modest to moderate effect size of Cohen's *d* value. The result showed that male students obtained higher mean score than the females. The detailed independent sample t-test for total, English, Mathematics and Aptitude is depicted in Table 4. The largest difference (39.54 points) with 0.68 Cohen value was observed in the total EHEECE result for males (m = 340.17, sd = 59.95) and females (m = 300.63, sd = 55.61; t (3153) =19.42, p = < 0.001, two-tailed). Male students have performed better than females in all cases. Similar result was also disclosed by Awofala 2012), Udida et al. (2012) and Oluwagbohunmi (2014). The t-test result was not in line with the findings of Abubakar and Adegboyega (2012) , Abdu-Raheem (2012), Kangahi et al. (2012), Gupta et al. (2012), and Josiah and Adejoke (2014) which disclosed that female students have achieved similar result with their male counterparts. Different socio-economic and school related factors, which result in gender disparity in academic achievement, have been identified by USAID (2005), UNESCO (2012), Okioga (2013) and Rotich et al. (2014). Mutekwe et al. (2012)

Table 4. Independent samples t-test (mean difference in terms of sex of students).

Subject	Sex	N	Mean	SD	MD	t	df	p	Cohen's *d* value**
Total*	Male	1816	340.17	59.952	39.54	19.42	3153	0.00	0.68 (moderate effect)
	Female	1427	300.63	55.606					
English	Male	1816	45.64	11.242	4.62	11.69	3241	.000	0.41(modest effect)
	Female	1427	41.02	11.078					
Maths*	Male	1816	37.90	12.984	4.54	10.68	3214	.000	0.38 (modest effect)
	Female	1427	33.36	11.186					
Aptitude	Male	1816	45.29	11.613	3.95	9.70	3241	.000	0.34 (modest effect)
	Female	1427	41.34	11.412					

* the *t* and *df* values were adjusted because variances were not equal; **Cohen's *d* value is calculated based on Muijs (2004:136-137) as 0-0.2 (weak effect); 0.21-0.5(modest effect); 0.51-1(moderate effect) and greater than 1.0(strong effect).

Table 5. ANOVA result (mean comparison based on schools).

No	School name	Mean	1	2	3	4	5	6	7	8
1	Adjibar	350.6		2.9	5.6	24.8*	42.2*	43.7*	54.3*	54.6*
2	Sayint	347.7	-2.9		2.7	22*	39.4*	40.8*	51.4*	51.8*
3	Kombolcha	345.0	-5.6	-2.7		19.3*	36.6*	38.1*	48.7*	49.1*
4	M/Akalewold	325.7	-24.8*	-22*	-19.3*		17.4*	18.9*	29.4*	29.8*
5	Wuchale17	308.3	-42.2*	-39.4*	-36.6*	-17.4*		1.5	12.1	12.4
6	Hotie	306.9	-43.7*	-40.8*	-38.1*	-18.9*	-1.5		10.6	11.0
7	Haik	296.3	-54.3*	-51.4*	-48.7*	-29.4*	-12.1	-10.6		0.4
8	Borena	295.9	-54.6*	-51.8*	-49.1*	-29.8*	-12.4	-11.0	-0.4	

	SS	df	MS	F	p	Eta^{2}**
Between groups	1361797.541	7	194542.51	58.162	0.000	0.112 (moderate effect)
Within groups	10820537.545	3235	3344.834			
Total	12182335.087	3242				

*The mean difference is significant at the 0.05 level. **Eta value of 0.01-0.06 (small effect), 0.06-0.14 (moderate effect) and above 0.14 (large effect) (Cohen, 1988). Mean differences (ANOVA) among schools (rounded to one decimal point).

that female students in Zimbabwean were not treated equally with boys both in schools and at home, leading to under-achievement.

One-way ANOVA was computed (Table 5) to compare the mean result of sampled schools in EHEECE result. A statistically significant difference was found among the schools (F (7, 3235) = 58.162, p < 0.001). Tukey's HSD was used to determine the nature of the differences among schools and they were categorized into three homogeneous subsets based on their mean. Borena, Haik, Hotie and Wuchale17 were grouped in the lower achieving group, Memhir Akalewold as a medium achieving while Kombolcha, Sayint and Adjibar were categorized in the upper achieving groups. The mean score for Adjibar was statistically higher than all schools except Sayint and Kombolcha. On the other hand, Borena has scored statistically lower than all schools except Wuchale17, Hotie and Haik preparatory secondary schools.

As depicted in Table 6, one-way ANOVA was computed to compare the mean EHEECE result of students into three age categories (below mean age, mean age and above mean age). A statistically significant mean difference was found among the age groups (F (2, 3240) = 19.574, p < 0.001). Tukey's HSD was used to determine the nature of the differences among age groups. The

Table 6. ANOVA result (mean comparison based on age category).

	SS	df	MS	F	p	Eta^2
Between Groups	145442.01	2	72721.005			
Within Groups	12036893.08	3240	3715.090	19.574	.000	0.012 (small effect)
Total	12182335.09	3242				

(I) age category	Mean	N	SD	%	(J) age category	Mean Difference (I-J)	P
≤ 18	330.61	1355	64.53	41.8	19	12.353*	.000
					> 20	14.657*	.000
19 (mean age)	318.25	980	60.58	30.2	≤ 18	-12.353*	.000
					> 20	2.304	.690
> 20	315.95	908	55.62	28.0	≤ 18	-14.657*	.000
					19	-2.304	.690

*The mean difference is significant at the 0.05 level. Dependent Variable: Total EHEECE result -Tukey HSD.

Table 7. Pearson Correlations coefficient* (N=3243).

	English	Maths	Aptitude
Maths	0.31		
Aptitude	0.54	0.44	
Total	0.70	0.62	0.69

*All correlations are significant at the 0.01 level (2-tailed) and Pearson correlation coefficient is interpreted based on Muijs (2004:145) as: <0.1 (weak); 0.1-0.3(modest); 0.31-0.5(moderate); 0.51-0.8(strong) and greater than 0.8(very strong).

analysis revealed that younger students (≤ 18 years old) had scored better (*m* = 330.61, *sd* = 64.53) than 19 years old students (*m* = 318.25, *sd* = 60.58) and 20 and above years old (*m* = 351.95, *sd* = 55.62). The mean score of 19 years old students and those with 20 and above years were not significantly different ($p > 0.05$). Tukey HSD test categorized age groups into two homogeneous subsets based on their mean. 20 years and above and 19 years old categories were grouped in the lower achieving groups while 18 years and lower age group was categorized in the upper achieving group. Younger students have scored better than older ones. The result obtained was not in line with the findings of Mlambo (2011), where there was no statistically significant academic performance between mature and younger students.

As displayed in Table 7, statistically significant positive correlation was found both among the three subjects and with the total EHEECE result. Maths (0.62), English (0.7) and Aptitude (0.69) results were strongly correlated with the total result. On the other hand, Maths result was moderately correlated with English (0.31) as well as Aptitude (0.44) results while English and Aptitude (0.54) results were strongly correlated. The weakest correlation was observed between Maths and English while the strongest one was between English and total result. Students who have scored better in the total result also scored better in the three subjects used in the analysis. This implies that Maths, English and Aptitude are good indicators of academic achievement in EHEECE.

A chi-square test of independence was calculated (Table 8) comparing the proportion of male and female students in the top and bottom achieving groups. A significant interaction was found (χ^2 (1) = 82.13, $p < 0.05$) for top achievers and (χ^2 (1) = 115.36, $p < 0.05$) for the bottom groups. Male students have been more likely represented in top but less in the bottom than expected and the opposite was true for female students. During 2012/2013 academic year, the proportion of male students at national level who have scored 200 and less was 27.9% as compared with 72.1% of females. On the contrary, males comprise 74% while it was only 26% for females in the top achieving groups (above 500 points) (MoE, 2013: 50). During in-depth interview, school principals and supervisors agreed that the performance of female students has improved through time. According to the interviewees, it became common to see female students competing males and challenging teachers in the class starting from the recent past. Some six or seven years ago, it was rare to get females in the top achieving groups; but recently, their representation among the top achieving groups has increased tremendously. This improvement, according to the interviewees, is a result of the cumulative effect of the tutorial classes, guidance and counseling given, and their own self confidence which has been developed through time.

As indicated in Table 9, a multiple linear regression was calculated predicting EHEECE total result based on the age level and sex of students. A statistically

Table 8. Chi-square test (proportion of male & female students in the top & bottom achieving groups).

Total No of Students				Observed	Expected	Top achievers**		
Sex	**N**	**%**	**Mean**	**(O)**	**(E)**	**df**	**χ^2-value**	**Table value at 0.05**
Male	1816	56	340.17	262	181			
Female	1427	44	300.63	62	143	1	82.13*	3.841
Total	3243	100	322.77	324	324			
Total No of students				Observed	Expected	Bottom achievers**		
Sex	N	%	Mean	(O)	(E)	df	χ^2-value	Table value at 0.05
Male	1816	56	340.17	85	181			
Female	1427	44	300.63	239	143	1	115.36*	3.841
Total	3243	100	322.77	324	324			

*Chi- square is significant at 0.05 level of significance. **comparison has been done by taking 10 per cent of students both from the top and bottom achieving groups.

Table 9. Linear regression (effect of sex and age on total result in EHEECE).

ANOVA						
	SS	**df**	**MS**	**F**	**p**	**R square**
Regression	1840393.106	2	920196.553	288.286	.000	0.151 (15.1%)
Residual	10341941.981	3240	3191.957			
Total	12182335.087	3242				

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**p**	**Collinearity Statistics**	
	B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
(Constant)	628.335	18.525		33.9	.000		
age	-12.593	0.926	-0.229	-13.6	.000	.925	1.081
sex	-47.305	2.078	-0.383	-22.8	.000	.925	1.081

Dependent Variable: Total EHEECE result.

significant result was found (F (2, 3240) = 288.286, p < 0.001) with and R^2 of 0.151. Students' predicted total score in EHEECE is equal to 628.335 -12.593(AGE) – 47.305 (SEX), where SEX is coded as 1 = male, 2 = female, and AGE is measured in years. EHEECE score decreases for females and older students. Age and sex together causes 15.1% of the variation in EHEECE score. The outcome revealed that, mean score decreases with age (B value is negative) and males performed better than female students.

CONCLUSION AND RECOMMENDATION

Ex post facto research design based on 2014 EHEECE result has been employed to examine the impact of gender on academic performance. All formulated hypotheses have been rejected and the alternative ones are accepted. The results of the study showed that male students have outpaced females in both cases (total, English, Mathematics and Aptitude). The result was statistically significant with modest to moderate effect size. Though school principals have replied, during interview that the performance of female students in class based examination has improved through time, the finding of this study revealed the presence of gender gap in EHEECE result. Students who have scored better in their total EHEECE result also scored better in Mathematics, English and Aptitude subjects. This implies that the three subjects are good indicators of students' overall academic achievement in EHEECE. One sampled t-test result revealed that, sampled schools have scored better result than the zonal and regional average. The one way ANOVA outcome indicated that statistically significant differences were found among sampled schools which need further investigation. The proportion of female students in the upper achieving group was found statistically lower than male students. Younger students have scored significantly better result than older ones. Mathematics, English and Aptitude results were found to be better indicators of total score in EHEECE. More endeavors are needed to narrow up the gender gap in academic achievement. More tutorial classes and guidance services are required so as to improve the

achievement of females at the higher ladder of education. Experience sharing among better achieving and low achieving schools should be arranged by the zonal educational office. More efforts are expected from concerned bodies so as to improve the performances of female students and narrow the achievement gap among schools. Schools are not in the same level of achievement and further investigation is needed to examine and point out the disparities among schools so as to take remedial actions.

Conflict of Interests

The author has not declared any conflict of interests.

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