

**ORIGINAL ARTICLE****Disparity in Academic Achievement in Selected Colleges of Teachers Education in Oromia Region****Teklu Tafase Olkaba\*****Abstract**

*The main objective of this study was to identify the disparity in academic achievement of female and male students in colleges of teachers' education in Oromia, and to identify variables attributing to this disparity. Three colleges of teachers' education. To this effect, Asella, Jimma and Nekamte colleges of teachers' education were selected by purposive sampling. 184 (one hundred and eighty four) female and 155 male students of third year were selected from language, natural science and social science streams by quota and systematic sampling techniques. The study was carried out by employing closed-ended questionnaires addressing issues attributing to academic achievements like gender stereotype, admission procedure, institutional satisfaction, parental style, learning style, personality style and accommodation issues and Cumulative Grade Point Average (CGPA) of Ethiopian General Secondary Education Certificate Examination (EGSECE) Cumulative GPA of college academic achievements (CGPA). These variables were analyzed with t-test, ANOVA, and simple regression analysis. The results of the study indicated that there are statistically significant differences between male and female students in academic achievement in both EGSECE and College CGPA; and further more, at stream levels male students are significantly performing better than female students. From attributing variables, there are statistically significant differences between male and female students in gender stereotype and institutional satisfaction while the same responses were obtained in other attributing variables. Moreover, the regression analysis shows that gender stereotype, institutional satisfaction and accommodation are significantly associated with female students' academic achievement.*

**INTRODUCTION**

The nature of gender disparity in academic achievement has changed profoundly over recent decades in higher education institutions in general and colleges of teacher education in particular, become more complex. Most recent international assessment studies agree that

female students tend to have a tendency of low academic achiever than male students irrespective of their educational level(OECD, 2009).

Apart from the injustice inherent in all gender stereotyping, gender differences in academic achievement can also negatively

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affect economic growth and social inclusion. For instance, female, remain a minority and low academic achievers in the fields of mathematics, science and technology, but on the other hand, evidence shows that males are more likely to be amongst the poorest academic achievers in language and social sciences (Marshall, 1994). This reality illustrates that gender disparity in academic achievement must be taken into account when developing policies and strategies to improve educational outcomes.

The issue of equity in education between male and female groups has been a serious problem in Ethiopian education system at all levels in general, and in higher education in particular. The number of admission, retention, and graduates has not been proportional to the size of the population when compared to male and female students throughout the country (Habtamu, 2004). The long-term vision of Ethiopian GTP emphasizes the importance of social justice, which is based on equality among various groups in Ethiopia and between men and women. The objectives of the GTP also stresses the importance of achieving the MDGs, which gives a significant place for gender equality and equity in various sectors of the economy and social services (Dereje, Dawit & Alemayehu, 2011).

The nature of gender inequalities in education has changed profoundly over recent decades and, with regard to attainment in particular, has become more complex. Apart from the injustice inherent in all gender stereotyping, gender differences in education can also negatively affect economic growth and social inclusion. The education for women is believed to have far-reaching benefits. It has a positive contributions to health of family, family size, and education of children (Hill, 1993). In a similar vein, World Bank (2006) stated that one way for

developing countries to bring a better life standard of people is to invest in the education of girls. In its view of the far-reaching advantage of girls' education, the article continued to state "*Not only well educated women be more productive, but they will also bring up better educated and healthier child*" (World Bank, 2006, p.97).

When we turn to the Ethiopian case, the proportion of females' to males' higher education academic achievement and participation has not yet reached the same (MOE, 2008). This shows that the higher education of female is still a long way behind, as compared to what is desired by the country.

### **The Conceptual Framework of Gender**

The concept of gender analysis refers to the collection and analysis of sex disaggregated data or information of life phenomena. It is obvious that males and females perform different roles in a society. The two groups have different experiences, knowledge, needs, and access to and control over resources. Gender analysis explores these differences between the sexes and facilitates the strategic use of their experience, knowledge, and skills.

*Gender: The socially constructed roles and responsibilities assigned to women and men in a given culture or location. Gender identity is learned and changes over time (UNDP, 1998). UNDP further describes the term "Gender" as a word used to describe a set of social qualities and behaviors expected from men and women by their societies.*

### **Gender Balance in Education**

Gender attracts the attention of policy makers and researchers in the area of teacher education because of the implications that gender imbalance in the teaching force has on the perception of the public and on the perceived quality of the education in

the school. Although many people teaching force affects female students' achievement as well, researches so far conducted on the issue are unable to prove the assumption. However, a recent study also found that gender disparity in academic achievement appears to be related to student attitudes (motivation; interest) in studying a particular subject rather than their ability and school performance (Cushman, 2010).

Gender gaps in performance are smaller than gender gaps in fields of tertiary study, indicating that female students often do not translate their good high school performance into field of studies like mathematics, technology, engineering and science in higher education institutions (Christine, 2010). Even though tertiary attainment rates of female students are now equal to or exceed those of male students in developed countries, there is a persistent gender bias in the choice of discipline. Female students still engage in different fields of study than male students and are mostly under-represented in the fields like mathematics, technology, engineering and science (OECD, 2011) with a significant disparity in academic achievement, while the large majority of tertiary education in humanities and health are awarded to female students. However, in developing countries including Ethiopia the reality is far from that of developed countries. Female students are under presented in participation and academic achievement in all disciplines particularly in tertiary education (OECD, 2011).

A priori, the different choices of fields of study by males and females may relate to differences in subject-related preferences, performance and different expectations about labor market outcomes. Regardless of their preferred subjects, female students might not consider choosing education careers that lead to occupations where few

assume that gender imbalance in the females are employed or to occupations that are perceived to be difficult to combine with family life. However, the fact that gender gaps in performance are smaller than gender gaps in attitudes leads experts to believe that choices in tertiary education are partly affected by gender stereotyping, within and outside the school that brings gender disparity in academic achievement (Zumwalt, K. & Karen, 2008; Cushman, 2010).

Others also argue that in this kind of situation the call for more male teachers' stems from discourses related to gender equality and equity and the need to have a teacher workforce that is representative of society (Cushman, 2010). Ayash Abdo (2000) stated that although the teaching profession has experienced feminization in many developed countries, the fact that many African and Arab countries still have lower number of women teachers in schools brought significant changes in the last decade (Dereje, Dawit & Alemayehu, 2011).

On the issue of why females achieve less than males, Drudy (2010) stated that in spite of the fact that important steps toward sex equity were taken, there is evidence that educators treat girls differently from boys. Studies he conducted show that teachers' attitudes, treatment and expectations influence girls' performance. Drudy finally recommended strongly on the importance of giving courses on gender issues to teachers in colleges of teachers' education.

Some researchers have also indicated that the feminization of teaching in developed countries is a result of historical, social and economic developments. In many developed countries about 80 percent of the teachers in primary schools are women (Hasse, 2008), and more than half of the teachers in secondary schools are females although that proportion appears to be lower in

secondary schools in Germany, Japan, and Denmark (Drudy, 2006). Hence, the feminization of the teaching profession at basic level is highly prevalent in developed countries whereas developing countries are still calling for gender equity in representation of female teachers.

In Ethiopia, like in many developing countries, the number of female teachers has been increasing in the last two decades although the representation of female teachers in some regions still appears to be very low. In fact, in some regions, the current enrolment of females in teacher training colleges is encouraging. In the 2010 educational statistics annual abstract, it is indicated that 52%, 47% and 46% of those enrolled in the teacher training colleges of Oromia, Amhara and Tigray regions respectively are females (MOE,2010).

Most of the existing research has focused on the effect of having a female teacher on different academic institutions, especially on performance in math and science majors, and choice of streams by female students, either in middle school or high school even in higher education (Ehrenberg et al., 2007 & Hoffman, 2009). These studies show that having a female teacher has a positive effect on female students' academic achievement that could delimit the disparity between male and female students at college education.

#### **The Place of Gender and Equity in Ethiopian National Policies and Programs**

Data from the Federal Civil Service Agency (FCSA) shows that women occupy less than 20 percent of professional and scientific positions, and one-fourth of administrative positions. On the other hand, women, illustrating those women in Ethiopia mainly work in lower level positions and their involvement in professional jobs is highly limited (FCSA,

2007), hold 71 percent of clerical and fiscal jobs and 51 percent of the custodial and manual jobs. Despite this fact, it has been recognized for a long time that development of countries necessitates the equal involvement of both women and men. Evidence also shows that a country's development very much depends on the extent to which it addresses gender disparity issues.

The Ethiopian government has been committed to address the gender disparity in various sectors by introducing various policy directions and institutionalizing ministerial offices. This can be illustrated through the establishment of the Ministry of Women's Affairs, its commitment on Millennium Development Goals, PASDEP the Gender Mainstreaming Guidelines, and the various affirmative actions taken in education and employment process.

One of the major goals of the MDG also focuses on gender equality with the target of eliminating gender disparity in education, employment, and political participation by 2015. PASDEP clearly indicated that gender has been mainstreamed in various sectors of the economy and significant changes have been achieved because of it. Moreover, the recently endorsed Growth and Transformation Plan (GTP) of Ethiopia has identified vision of Ethiopia, objectives and pillars that would be used to sustain the significant changes registered under PASDEP. The long-term vision of Ethiopia as stated in the GTP is:

*to become a country where democratic rule, good-governance and social justice reigns, upon the involvement and free will of its peoples; and once extricating itself from poverty and becomes a middle-income economy (The Federal Democratic Republic of Ethiopia, 2011: 7).*

Looking at this and other policy statements, it can be argued that adequate awareness

and legal framework exist regarding the inequities that are prevalent in the country in general and in the education sector in particular. However, the practice and the figures of the past several years are contradictory to the policy statements.

### **Factors Related to Gender Difference in Education**

Women's participation in education is constrained by economic, socio-cultural, familial, personal, and school factors. The economic problems relate to parents' inability to send girl children to school especially if schools are far from home, or girls drop out due to lack of finances. The problem is more serious in rural areas, particularly in pastoralist regions. The traditional division of labor in homes constrains girls' success in education. School distance, harassment and feelings of discomfort to participate equally with men are obstacles for female students. In addition, dropout in high school is fuelled by the practice of early marriage and marriage by abduction. Different scholars have written on factors behind the difference between sexes. Martin (1996) listed the following factors:

- i. Familial socialization on boys' and girls' achievement (parental beliefs, attitudes, and expectations; familial interaction patterns and children's academic achievement and performance);
- ii. School-related factors (teachers' beliefs and attitudes; differential access to mathematics and science instruction (e.g. role models in the areas), and curriculum and course content;
- iii. Self-system processes and gender differences in academic achievement and performance (attributions of academic competence and ability achievement and performance (attributions of academic competence and ability; academic self-concept);

and

- iv. Biological explanations.

Furthermore, Drudy (2006) listed factors related to gender disparity (access, retention, attendance, performance, and school experience) in education as:

- i. Political and institutional factors (commitment to finance education, commitment to equity – gender, regional, ethnic; capacity to implement and commitment to flexible model of educational provision);
- ii. Cultural factors (early marriage/abduction, lack of educated female role models, discordance between religion and secular models of education, social and family gender role expectations, family and community commitment to children's education, and large number of cultures, languages);
- iii. Economic factors (state resources for education, family and community resources for education, opportunity costs for girls and boys, and quantity, quality and distribution of adult labor market opportunities); and
- iv. School factors (historical pattern of school establishment, inadequate resources schools, teachers, textbooks, facilities; unfavorable gender ratio, inadequately trained teachers, unsupportive school culture and poor curricula). College students, both males and females, may become confused about how to interpret their environment and respond in a relatively more assertive culture. Depending on their cultural backgrounds, some of the students may not be assertive enough to search or ask for help on their own (Cushman, 2010).

As a result, their passivity can handicap the students in their relationships with their instructors, advisors, and classmates. Not being able to say no to friends, to inquire about an assignment with an instructor, or to stand up for themselves may also hinder the learning of survival skills in the new culture. Being assertive, initiating contact, and getting involved in social and academic interactions, however, may help students cope with their academic life in colleges.

### **Impact of Streams and Falling Behind at School**

It is also relevant to consider to what extent the gender gap is related to gender differences in the distribution of students across different streams or tracks (school programs) and year groups. Almost all educational systems at upper secondary level divide pupils into separate study streams that have distinct curricula and award different school leaving certificates for the different qualifications acquired by students.

There has been a renewed debate on the issue of gender disparity on math and science achievement. This debate currently focuses on why females are not seeking careers in science, engineering and technology occupations. The most comprehensive reviews of the research in the area of gender disparity in academic achievement have shown very few true differences between mathematics and languages, particularly in verbal abilities between male and female students (Eccles, 2002).

Even though this research puts into questions whether gender disparity still exist in academic achievement, many researchers are still finding disparity in academic achievement as well as general interest in areas related to choice of streams or fields of studies. The research result by Eccles, Lord, Roeser, Barber, and Jozefowicz (1997) found that gender

disparity in enrollment in advanced science stream courses in high school are mediated by gender differences in expectations for success in mathematics and physics and perceived value of competence in mathematics in their past academic levels. Jacobs, Lanaz, Osgood, Eccles, and Wigfield (2002) found that self-concept of ability and task value in mathematics decline for both genders between first and twelfth grades with no real difference between female and male trajectories over time.

Even though females have made great strides in the law, languages, and social science streams, very few can be found in professions in mathematics, computer science, physics, engineering, and technology streams (Eccles, 2002). This study shows subjective task value; in particular interest in high school can predict the choice of students in either of science, language or social science streams in college education that will be associated with high school performance over time. This research would suggest that the interest and choice of streams by college students would determine academic achievement of female students in college education.

Researchers (Jacobs et al., 2002) have tried to pinpoint why mathematics performance at high school is a strong predictor of students' college education academic disparities, particularly in science streams. Others (Jacobs, Osgood, Eccles, & Wigfield, 2002) claimed that academic disparities in student achievement are the result of variation in students' interests in choice of streams and natural ability. Thus, gender disparity in academic achievement seems to remain a focus in the academic track in of primary and secondary education as a predictor for choice of streams and achievement disparity of gender in their respective streams or fields of study (Drudy, 2008).

Thus, gender differences in mathematics and science achievement at school are also useful in understanding female under-representation in these fields at higher levels of education. Similarly, male under achievement in reading might help us understand why there are relatively few men in the spheres of education and the humanities (Henry 1997). However, in mathematics, boys and girls have similar results at the fourth and eighth school years in most countries. Boys' advantage emerges in the later school years and is especially noticeable among students who attend the same teaching programs and year groups (Brusselmans & Sileshi, 2001).

To ensure the equality of females in access and participation; the Ministry of Education (MOE, 2008) has made in place a positive discrimination of women in higher education. The entry assessment or admission procedure for female students shows a positive discrimination, which has made the proportion of male and female students in higher education better than the former one. In fact, the number of female students entering higher education institutions in recent years by far exceeds the previous admission procedures.

Previous studies mostly address gender disparity in academic achievement at subject levels; for instance, disparities in Mathematics achievements of grade 5 and 6 (primary schools) students (Seleshi, 2000 & 2001). Moreover, gender disparity in other hard science courses in secondary schools were clearly described (Marshall, 1984; Sherman, 1980) while Tamire (2008) reported the causal attribution of female academic achievement among first year university students.

However, there were no detailed research studies of gender disparity in academic achievement done at stream level other than subject areas in colleges of teachers' education where the proportions of female

students are well presented as compared to the rest of higher education institutions in Ethiopia. Even though girls' enrollment in education, at all levels, is increasing from time to time, the national and regional studies show that female academic achievement is significantly lower than males' academic achievement (MOE, 2008).

The issues of varying proportions of male and female students in different fields of study, and gender patterns in achievement by subjects and streams were not well studied so far with statistical analysis, which reflects current situation. Critical issues with respect to gender gaps in terms of male outperforming female and female outperforming male in subjects referring to high school achievement as a predictive validity for college achievements did not get due attention so far. Besides, comprehensive studies of the extent and causes of gender disparity in academic achievement in colleges of teacher education have not been thoroughly analyzed.

Therefore, the difficulty of narrowing the achievement gap between males and females and achieving minimum competence by females in college education is a hurdle for the participation of women. Exploring factors contributing to females' low academic achievement is a crucial point, part of which this study focuses on, in general and in selected colleges of teachers' education in Oromia Region in particular.

However, the challenge is how to retain and improve the academic achievement of female students in college education. For instance, the cumulative academic achievement of males and females in Jimma College of Teachers Education in the previous academic year was 2.94 and 2.28 respectively. Furthermore, the data of graduated student profile shows that from

the total of 29.3% students who achieved CGPA of 3.25 and above, only 7.73% of female students achieved CGPA of 3.25 and above while 21.57 % of male students achieved CGPA of 3.25 and above. It can be argued that, though the current massive campaign in favour of female students in colleges of teachers' education is commendable, it has failed to ensure the proportional academic achievement of gender.

Hence, the study was aimed to identify the significance level of gender disparity in academic achievement and the major causing factors causing the disparity of gender in colleges of teachers' education and to project the existing problem at national level. The study was guided by the following basic research questions:

1. To what extent do the academic achievements of male and female students in colleges of teachers' education differ?
2. What are the major factors causing the differences in academic achievements between male and female students at college level?

## METHODOLOGY

### Study Design and Site of the Study

According to Creswell(2003), the nature of study design employed depends on the nature of the research itself. Descriptive survey design was employed to conduct the study. This study was conducted in colleges of teachers' education in Oromia Region. In this design, priority was given to quantitative investigation. The rationale for this approach was that quantitative data would provide a general picture of the research problem, in colleges of teachers' education.

### Sample

Three colleges of teachers' education were selected from Oromia Region. Purposive sampling was employed for selecting the research sites (colleges) while quota and systematic sampling techniques were used for selecting the participants. The reason for selecting these colleges was that they could relatively be a good representative in offering training for a long period, and to get valuable information and for easy accessibility as compared to the rest of other colleges of teachers' education in Oromia Region. From the three colleges, only third year students were selected by the use of quota and systematic sampling as shown in the Table 1 below.

**Table1: Sampling Techniques**

College	Population			Samples		
	Female	Male	Total	Female	Male	Total
Asella	317	226	543	60	50	110
Jimma	346	326	672	75	65	140
Nekamte	260	239	499	50	45	95
<b>Total</b>	<b>923</b>	<b>991</b>	<b>1914</b>	<b>185</b>	<b>160</b>	<b>345</b>

### Instruments

The research instruments employed for data collection were close-ended questionnaire and students Cumulative

Grade Point Average (CGPA) of EGSECE and Cumulative academic achievement of students' up to fifth semester. The items of questionnaire were prepared in the form of Likert-type scale of five- point agreement

ranging from *strongly agree to strongly disagree* for gender stereotype, personality style, parenting style and accommodations while four point scale ranging from *'it describes me at all to it doesn't describe me at all* for learning style, and for institutional satisfaction on three point satisfaction rating scale ranging from *satisfactory to unsatisfactory* were employed to gather the required data.

### **Procedures**

The questionnaires were partly developed and partly adopted by the researcher in consultation with other experienced instructors in English; and translated into Afan Oromo to avoid language barrier while responding the questionnaires. To ensure whether the questionnaire were free from vague and unclear items, a draft questionnaire translated into Afan Oromo were distributed to students of the same levels of the study sites.

The reliability coefficients were determined for the selected items using Cronbach alpha method of estimating reliability. The Cronbach alpha reliability of the questionnaire items for gender stereotype, personality style, parenting style and accommodations were 0.91, 0.83, 0.87 and 0.84, respectively. The overall average on the same range of scale is 0.86, whereas the Cronbach alpha reliability of the questionnaire items for learning style, and institutional satisfaction level were 0.73 and 0.76 respectively. In all cases, the internal consistency of each scale was acceptable, which shows that questionnaire were consistent to collect and measure the required data. After the reliability of instruments were checked, the revised questionnaires were distributed to samples

of third year students of the three selected colleges of teachers' education.

### **Methods of Data Analysis**

The data collected from participants were structured, organized and framed to suit analysis and inferences. The data were presented using descriptive and inferential statistics. Only summarized data for inference described under result and discussion section. Based on the nature of the basic research questions, the data were analyzed as follows:

1. Descriptive statistics was employed for all variables in the study.
2. One-Way Analysis of Variance (ANOVA): was employed to analyze the significant variations between the respondents within the selected college and streams particularly for gender stereotype, personality style, parenting style, learning style, and institutional satisfaction and accommodations.
3. t-test: was employed to analyze the mean differences between female and male CGPA of college academic achievement and EGSECE.
4. Simple regression analysis was employed to speculate factors attributing female students academic achievement

### **RESULTS AND DISCUSSION**

From 345 samples of the study 339 questionnaires were properly responded which is 98.2% of the total sample of the study. The results of the study variables are presented in both descriptive and inferential statistics and followed with discussion.

**Table 2: Analysis of Gender Difference in EGSECE and College CGPA**

Variables	Gender	N	Mean	Std. Dev	t	Sig.
EGSECE CGPA	Female	184	2.1326	0.14426	-8.588	0.031*
	Male	155	2.2617	0.13005		
College CGPA	Female	184	2.4179	0.28293	-9.756	0.001*
	Male	155	2.8041	0.43988		

*\*shows significant level at 0.05*

As depicted in Table 2, the descriptive statistics shows that the average CGPA of EGSECE of male students (Mean= 2.2617, St. Dev. = .13005) is better than that of female students (Mean=2.1326, St. Dev. =.14426) and the CGPA of college achievements of male and female students (mean= 2.8041, St. Dev. = 0.43988) and (mean= 2.4179, St. Dev. = .28293) respectively shows that male students are performing better in both EGSECE and colleges levels than female students.

Furthermore, the inferential statistics shows that there is statistically significant difference between the average CGPA of EGSECE and college CGPA of male and female students ( $t = -8,588, p=0.031$ ) and ( $t = -9, 756, p=0.001$ ), respectively. Moreover, the data reveals that the

performance students in college academic achievement is the worst as compared to EGSECE achievement. This shows that the achievement gap or disparity between female and male students widens at college academic achievement than at high school achievements. The implication is that, even though more female students are entering college of teachers' education with less CGPA of EGSECE, they still performing less as compared to male students. Some scholars agreed that the more representation of female student in college education promote their self-concept that leads to good academic achievement. However, the result of this study is in contradiction that even though more female students joined the college, they are performing less than male students.

**Table 3: Analysis of Gender Disparity in CGPA by Stream**

Streams	Gender	N	Mean	Std. Dev	t	Sig.
Lang. CGPA	Female	58	2.463	.286	-6.548*	0.000
	male	31	2.934	.471		
Nat. Sci. CGPA	Female	70	2.386	.292	-5.483*	0.000
	male	91	2.757	.460		
SociSci. CGPA	Female	56	2.461	.300	-4.915*	0.000
	male	33	2.880	.431		

*\*shows significant level at 0.05*

As shown in Table 3, male students are performing better than female students in all the three streams (language, natural science and social science streams). This finding is contrary to the literature cited in Smith (1994) which states that academic achievement disparity is minimal between female and male students in language and social sciences as compared to natural sciences and mathematics courses. More specifically, the difference observed in natural science stream other than language and social science stream is at odds argued with the literature review cited in (Sileshi, 2000 & Temire, 2006).

Besides Table 3 depict, despite the fact that disparity within the stream slightly varies, the overall result shows that male students are better academic achievers than female students. Moreover, the disparity goes beyond the expectations in some streams.

Recent researchers reported that female students' academic performance in language and social science courses is better than that of male students, while male students' academic performance in natural science and mathematics is better than that of female students (Smith, 1994 & Hallan, 2003). However, this finding shows that male students' academic performance is better than that of female students in all streams.

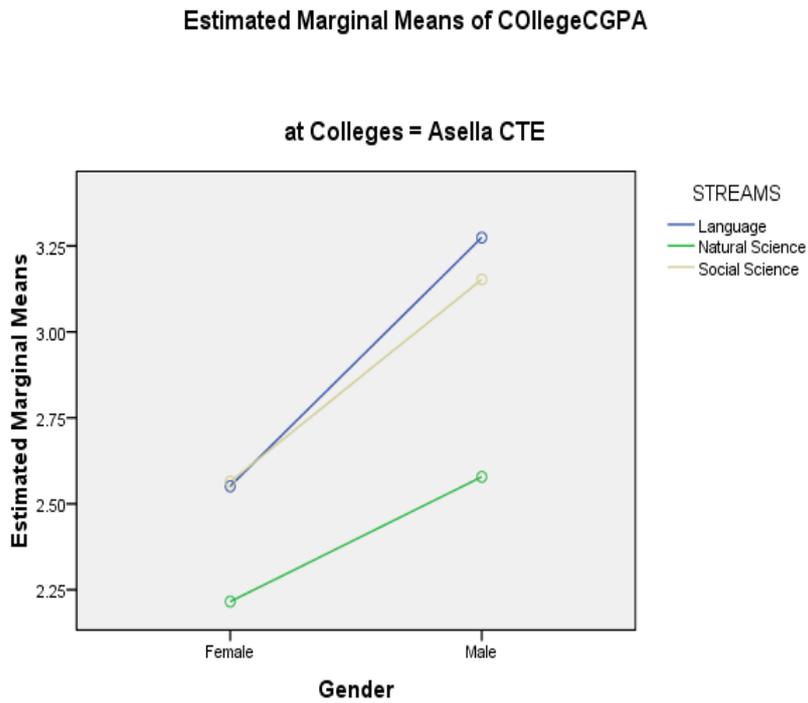
International assessments of student achievement in reading, mathematics and science report some consistent gender patterns. The most visible and clear gender difference is the advantage of girls in language and humanity studies that encompasses social science fields or streams. This advantage is consistent across countries, different age groups, survey periods and study programs (Lafontaine &

Monsieur, 2009). In mathematics, boys and girls have similar results in the fourth and eighth year of schooling in most countries. Boys' advantage emerges in the later school years and is especially noticeable among students in the same study programs or streams and year groups (Shiel, 2009).

Male advantage in science achievement is significant only for those attending the same classes and schools in most countries. Daily observations of the higher performance of boys in mathematics and science lessons might provide information on why girls have lower self-confidence in these areas and are less inclined to choose mathematics, science and technology fields of study at tertiary level (Close & Shiel, 2009). However, the achievement disparity observed in all the three streams in Table 2 above shows that male students are better achievers than female students, which is contrary to all the cited literatures (Close & Shiel, 2009, Lafontaine & Monsieur, 2009).

Table 3, also summaries that male students are better academic achievers than female students. The difference is statistically significant, and in some cases, it is beyond the expected result. One can conclude that affirmative action taken during the admission process does not have as such a meaningful implication in female academic achievements. This requires another policy that urges to mitigate disparity between male and female students in their academic achievements at college level.

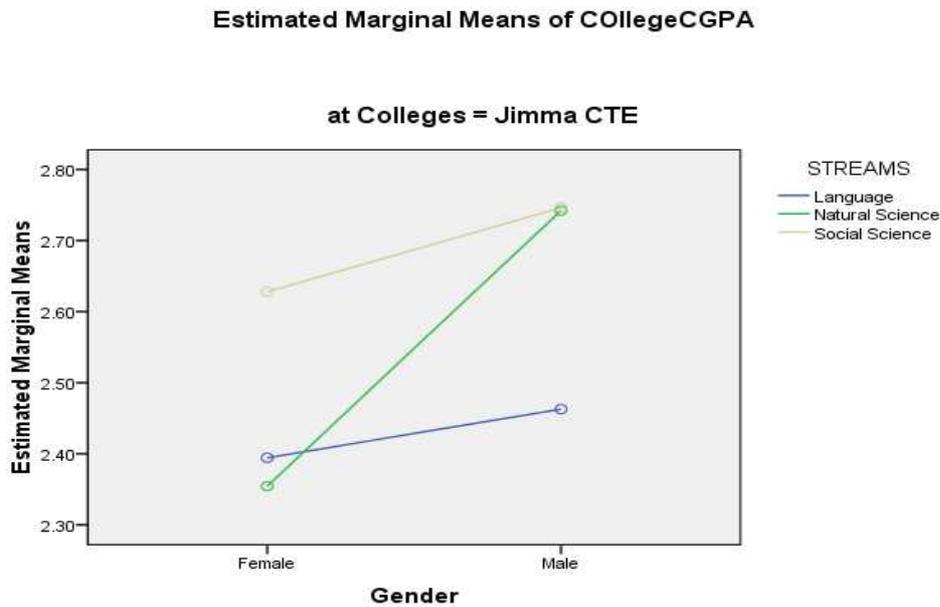
Furthermore, the disparity of male and female students analyzed at stream levels of each college are shown in Figures 1, 2 & 3 below, respectively.



**Fig. 1. Gender disparity in academic achievement in respective streams in Asella CTE**

It is clearly observed from Figure 1 that male students are performing better than female students in all the three steams (language, Natural science and social science streams). In the case of Asella

College of Teachers' Education specifically, a significant difference is observed in language and social science streams than natural science streams.



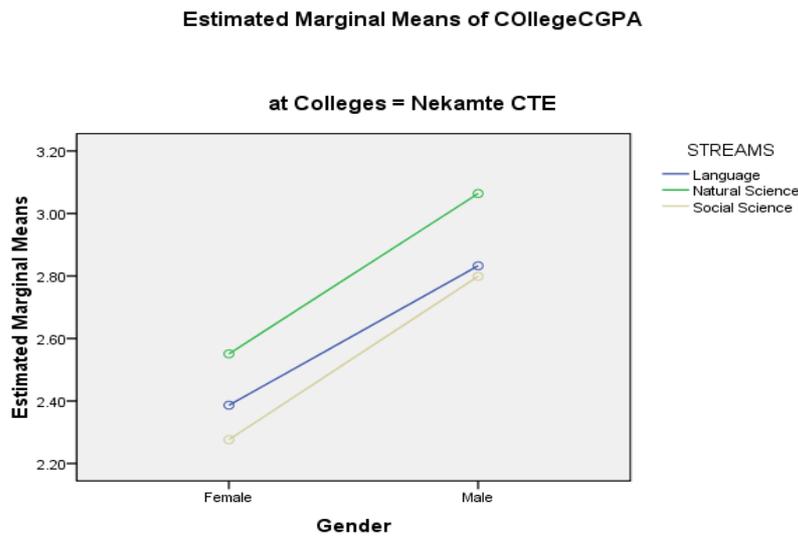
**Fig. 2. Gender disparity in academic achievement in respective streams in Jimma CTE**

One can observe from figure 2 that male students are performing better than female students in all the three streams (language, natural science and social science) as observed in the case of Asella College of Teachers' education. More specifically, the difference observed in natural science stream when compared to language and social science stream is the worst of all which is argued with the literature review cited in Sileshi (2000) and Temire (2006).

As shown in from figures 1 and 2 above, despite the fact that disparity within the stream varies from college, to college the overall result shows that male students are

better academic achievers than female students.

Moreover, the disparity goes beyond the expectations in some streams. Recent researches reported that female students academic performance in language and social science courses is better than that of male students, while male students academic performance in natural science and mathematics is better than that of female students' (Hallan,2003 & Smith,1994). However, this finding shows that male students' academic performance is better than that of female students in all streams.



**Fig. 3. Gender disparity in academic achievement in their respective streams in Nakemte CTE**

From Figure 3 above, the same trend is observed that male students are better college academic achievers than female students in all the three streams /language, natural and social science streams/.

To sum up, this finding, it is contrary to other research finding that state female students' academic achievement is better in soft sciences/ social and language areas. Even though it is difficult to conclude at this stage, surprisingly, the reverse of previous research is observed here in selected colleges of teachers' education in Oromia Region. As a researcher, even though it is difficult to generalize findings with single and one case study, the differences observed in the three streams might be because of some extraneous factors like teachers quality, and

educational resources available in each College which must be better addressed ahead of conclusions.

Figures 1, 2 & 3 summarize without any exception that male students are better academic achievers than female students. The difference is statistically significant and in some cases, it is beyond the expected result. One can conclude that affirmative action taken during the admission process does not have as such a meaningful intension in female academic achievements. This requires another strategy that urges to mitigate the disparity between male and female students in their academic achievements at college level. Moreover, the performances of female students analyzed alone from the selected colleges is shown in Tables 3&4 below.

**Table 4: Descriptive statistics of academic achievement of female student by college**

Variables	College	N	Mean	St. Dev
College CGPA	Asella CTE	61	2.486	0.30018
	Jimma CTE	74	2.4082	0.28611
	Nekamte CTE	49	2.3966	0.24754
	Total	184	2.4306	0.28237

As observed in descriptive statistics of Table 4 above, academic achievements of female students are in the same range. All are below CGPA 2.50 (Asella CTE , Mean=2.4860, St. Dev.=.30018) , Jimma

CTE (Mean= 2.4082, St. Dev.=.28611), and Nekamte CTE ,(mean =2.3966, St. Dev.= .28237).This result shows that similar achievement is observed among female students in each of sampled colleges of the teachers' education.

**Table 5 : Analysis of variances /ANOVA/ of female students CGPA within the College**

Variables		Sum of Squares	df	Mean Square	F	Sig.
College CGPA	Between Groups	.278	2	.139	1.759	.175
	Within Groups	14.233	181	.079		
	Total	14.511	183			

In Table 5 above, there is no statistically significant difference ( $F=1.759$ ,  $p> 0.05$ ) observed between the achievements of female students in all the selected colleges. Based on Tables 4 and 5 above, one can conclude that similar problems are observed

in all colleges regarding female students' academic achievement. Furthermore, the disparity in academic achievement of female students analyzed at steam level is shown in Table 6 & 7 below.

**Table 6: Descriptive statistics of female students CGPA by stream**

Variables	Streams	N	Mean	St. Dev
College CGPA	Language	87	2.4631	.28626
	Natural Science	63	2.3696	.26054
	Social Science	34	2.4614	.30094
	Total	184	2.4306	.28237

As depicted in Table 6 above, the academic achievement of female students in their respective streams are similar. For instances language stream (mean=2.4631, St. Dev. = .28626), natural science (mean= 2.3696, St. Dev. = 0.26054,) and Social science (mean=2.4614, St. Dev = 0.30094). Referring to Tables 2, 4 & 6

above, in all streams, the CGPA of female student is below 2.50, whereas their counter parts, male students' college CGPA is above 2.75. This shows that in all streams, female students' academic achievements is far below that of male students.

**Table 7: Analysis of variance /ANOVA/ of female CGPA within Stream**

Variables		Sum of Squares	df	Mean Square	F	Sig.
College CGPA	Between Groups	.358	2	.179	2.274	.106
	Within Groups	14.154	181	.079		
	Total	14.511	183			

As shown in Table 7, there is no statistically significant difference ( $F=2.274$ ,  $p>0.05$ ) observed between academic achievements of female students in all the streams. From Tables 6 and 7, it can be argued that female students are not in favor of any stream courses. Moreover, their performance is similar in all their tracts or streams as well as in all their respective college. Factors such as socio-economic differences, ethnic origin and language intersect with gender influence educational performance and indeed, such social factors are more influential as students grow older to affect their academic career endeavors (Sammons, 1995).

Thus, disparities in absolute attainment related to gender and socio-economic factors increased as students grew older (Sammons, 1995). Interestingly, as the achievement of female students in each college is similar, either the students might have the same social and economic factors or the same academic problems from the ground. The overall analysis shows that male students are significantly out performing female students, in over all performances, in their college academic career in all streams.

Table 8: Analysis of variables attributing to female students academic achievement

Variables	College	N	Mean	St. Dev	F	Sig.
<b>Gender stereotypes</b>	Asella CTE	61	27.6167	7.11192	.663	.517
	Jimma CTE	74	29.2297	10.66623		
	Nekamte CTE	49	29.3061	8.56398		
	Total	184	28.7213	9.05380		
<b>College admission</b>	Asella CTE	61	18.6167	3.39037	.205	.815
	Jimma CTE	74	19.0946	4.95506		
	Nekamte CTE	49	18.9184	4.26144		
	Total	184	18.8907	4.29017		
<b>Institutional Satisfaction</b>	Asella CTE	61	25.3000	6.33607	.119	.888
	Jimma CTE	74	25.6757	5.56188		
	Nekamte CTE	49	25.1633	6.67504		
	Total	184	25.4153	6.10100		
<b>Learning style</b>	Asella CTE	61	25.8333	5.41863	.680	.508
	Jimma CTE	74	26.8243	5.25867		
	Nekamte CTE	49	26.7347	4.88951		
	Total	184	26.4754	5.20758		
<b>Personality style</b>	Asella CTE	61	26.5333	5.55242	3.025	.051
	Jimma CTE	74	28.9459	6.43171		
	Nekamte CTE	49	28.2041	4.61420		
	Total	184	27.9563	5.76921		
<b>Parental style</b>	Asella CTE	61	50.1667	11.19650	1.5200	0.221
	Jimma CTE	74	52.8649	8.43074		
	Nekamte CTE	49	50.0408	12.28305		
	Total	184	51.2240	10.52517		
<b>Accommodations</b>	Asella CTE	60	14.5500	5.21869	.5440	0.582
	Jimma CTE	74	13.7066	5.97746		
	Nekamte CTE	49	14.7784	7.28551		
	Total	184	14.2701	6.11419		

Table 8 above shows that there is no statistically significant difference observed among female students in the three selected colleges in all variables except personality style that shows a slight statistical difference ( $F=3.025$ ,  $p \leq 0.051$ ). The implication is that all variables

attributed to gender academic achievement are equally threatening female students. Furthermore, analysis of attributing variables of female and male students' academic achievement is described in Table 9 below.

**Table 9: Analysis of Variables Attributing to Gender Academic Achievement Disparity**

Variable	Gender	N	Mean	Std. Dev.	t	Sig.
Gender stereotype	Female	184	28.7391	9.03227	-3.814	.000*
	Male	155	35.6516	9.83803		
Satisfaction level	Female	184	25.4076	6.08520	-2.444	.0068*
	Male	155	31.3290	5.55972		
Admission procedure	Female	184	18.8696	4.28804	1.047	.296
	Male	155	18.3355	5.10828		
Learning style	Female	184	26.4728	5.19345	-.228	.820
	Male	155	26.5935	4.41617		
Personality style	Female	184	28.6457	5.75523	-1.769	.076
	Male	155	29.7677	6.35203		
Family style	Female	184	51.2609	10.50825	-.457	.648
	Male	155	51.7548	9.15902		
Accommodation	Female	184	14.7523	6.10223	-1.155	.249
	Male	155	15.0800	6.49269		

*\*shows significant level at 0.05*

In Table 9 above, there is statistically significant difference between male and female students about gender stereotypes ( $t = -3, 814$ ,  $p < 0.01$ ) and institutional satisfaction ( $t = -2, 44$  &  $p < 0.05$ ). This shows that gender stereotype still exists among educated society, even female students are not confident enough about their future endeavors. This is still a difficult task to act on it. However, in the rest of attributing variables; admission procedure ( $t=1.047$ ,  $p > 0.05$ ), learning style ( $t = -0.228$ ,  $p > 0.05$ ), personality style ( $t =$

$1.769$ ,  $p > 0.05$ ), family style ( $t = -0.457$ ,  $p > 0.05$ ), accommodation ( $t = -1.155$ ,  $p > 0.05$ ), there is no statistically significant difference between female and male students.

Table 9 depicts that both male and female students agreed that admission policy and affirmative action are acceptable. Moreover, learning style, personality and family style did not have significant effects on students' academic achievements of male and female students at college levels for this particular study. This is in fact true,

as the backgrounds of the students are from similar social and cultural groups. Even though similar responses are observed between female and male students towards accommodation issues ( $t = -1.155$ ,  $p > .05$ ), the descriptive statistics of both male and female students do not agree towards the

accommodation issues. This implies that the problem is similar for both male and female students. Therefore, it is easy to argue that accommodation issue equally threatening male and female students in affecting their academic achievement.

**Table 10: Regression analysis of attributing variables**

Variables	Regression coefficient	Level of significance
Gender stereotypes	-0.950	0.0031*
Admission procedure	0.361	0.2741
Institutional satisfaction	-0.741	0.0072*
Learning style	-0.001	0.8430
Personality style	-0.263	0.0641
Parental style	-0.036	0.0742
Accommodation	-0.871	0.0016*

*\*shows significant level at 0.05*

The regression analysis shows the relation of gender stereotypes, admission procedure, institutional satisfaction, learning style, personality style, parental style and accommodation to academic achievement of female students. From the result of regression analysis, gender stereotypes, institutional satisfaction, and accommodation factors are playing a dominant role in affecting female students' academic achievement, whereas the rest of variables like admission procedures, learning and personality styles do not significantly affect female students' academic achievements.

According to Wood (1987), education as the main instrument in producing equal life chances is unwise, because, it would require the precondition. In a society where girls and women are viewed as unequal to boys and men, there should be a possibility for schools to compensate and so equalize girls' life chances. Interestingly, this study also contradicted with the findings of

Wood (1987), that institutions have responsibility to compensate matters pertaining female students academic performance by mitigating gender stereotypes and improving institutional satisfaction.

### CONCLUSIONS

The main objective of this study was to identify gender disparity in academic achievement at college level. Accordingly, a number of attributing variables associated with academic achievement of female students at college level have been thoroughly analyzed.

The result of the study revealed that female students are well represented in colleges of teachers' education. They account to 52 % of the total population of college students. The implication is that female students' participation rate at colleges of teachers' education is due to the affirmative action taken during admission

procedures. This result has encouraged achievements that reduce hesitation of higher education participation of female students in recent study (Tesfaye, 2006). Researchers (Marsh, Koller & Baumert, 2001) repeatedly reported that under presentation causes low self-concept which in turn causes low academic achievement. Furthermore, females with low self-concept have had low academic achievement in mathematics, physics and chemistry courses (Demewoz, 2005).

Contrary to the study by Marsh, Koller, and Baumert (2001), the current study clearly demonstrated that the well presentation of female students in colleges of teachers' education does not show any progress in their academic performances as compared to that of male students. Moreover, the disparity in academic achievement between male and female students was not confined only to hard sciences like mathematics, physics and chemistry, but goes to social sciences and even in language courses. The findings of the study have proven that there is statistically significant difference between male and female students in college academic achievements. The difference is statistically significant in respect to their specialization. From the t-test analysis, statistically significant difference in EGSECE GPA of male and female students during admission was observed. This is in fact because of positive discrimination made during admission procedures. However, while remedial action in each college is not well structured, disparity in academic achievement between male and female students in college performance became the worst as compared to EGSECE GPA.

The regression analysis indicated that gender stereotype, institutional satisfaction, and accommodation issues significantly affect female students' academic

achievement. All other variables under this study are equally threatening both male and female students in their college life. Hence, from the result of the study, it can be argued that female students are well represented in college of teachers' education. However, they are performing less than male students. The difference is statistically significant in all courses of streams. Thus, the underlying causes of female students lower academic achievement are among others, attributing variable like appropriate support at institutional level, low self-concept as a result of perceived gender stereotype considered to play a dominant role for low achievements' of female students at college level. Unless these issues are mitigated, the big difference in academic achievement between male and female students will continue. Therefore, it needs new policy initiatives to demonstrate a belief that female students have an appropriate and legitimate place in colleges of teachers' education to minimize the high difference in academic achievements of male and female students.

Other research findings show that academic achievement is associated with academic self-concept, which will be developed by female students' representation in college (Baumert, 2001). In this study, the more representation of female students in college does not reveal their academic competence, and female students' academic achievement significantly lower than that of male students both in EGSECE CGPA and college performance CGPA. The implication is that female students admitted in to colleges of teachers education with low CGPA of EGSECE continued with the same trend even lower than the CGPA of EGSECE as compared to their College.

In conclusion, the findings of this study show that, on average, female students are less academic achievers than male students in colleges of teachers' education in the

entire three streams (language, social science and natural science) which is, in some cases, contrary to the recent research output. Some attributing variables in this particular study have been identified quantitatively. However, it is commendable to re-analyze the variables qualitatively in another research for general conclusions to be possibly made.

### Implications

On the bases of this study, the following implications have been made:

1. In order to eliminate gender disparity in academic achievement, new policy initiative should be developed so as to link teaching at high school with training at colleges of teachers' education that improves female students' academic achievement.
2. A better balance in the gender composition of teachers and the endorsement of female role models in colleges of teacher education can minimize the current disparity in academic achievement between male and female students.
3. Affirmative action taken during admission of students into colleges of teachers' education should be revisited by regional education bureau and colleges of teachers' education, i.e. the interest and academic performance of female students are better predictors of their college academic achievements.
4. Affirmative action taken during admission of students into colleges of teachers' education should be followed with remedial action in each streams of colleges of teachers' education.
5. New policy initiative should place greater emphasis on improvement of

female students' academic assessments rather than relying on simple representation of female students in colleges of teachers education.

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