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EFFECTS OF STUDENT, INSTITUTION AND SOCIOECONOMIC FACTORS ON FEMALE STUDENTS' ACADEMIC SUCCESS IN ARBA MINCH UNIVERSITY

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Table of Contents

List of Tables

Table **Page**

List of Figures

List of Abbreviations

AAM	Academic Achievement Motivation
AAMS	Academic Achievement Motivation Scale
ASCI	Academic Self-Concept Inventory
AMU	Arba Minch University
AMUR	Arba Minch University Registrar
APP'Sciec	Applied Sciences Faculty
ASC	Academic Self-Concept
CGPA	Cumulative Grade Point Average
EAI	Earning Index
EDI	Educational Index
Edu'n	Education Faculty
Eng'g	Engineering Faculty
ESAA	Education Statistics Annual Abstract
FBE	Faculty of Business and Economics
FS	Facilities and Services
GPA	Grade Point Average
HEIs	Higher Education Institutions
HOI	House Index
IN_R	Instructors' Related Factors
IRF	Institution Related Factors
MoE	Ministry of Education
MPI	Major Property Index
n. d	No Date
OCP	Prestige Rating of Occupation
PE	Parents' Education
PI	Parent' Income
Q-I-T-MSS	Question in the Margin Study System
3R	Read, Recite, and Review

SEF	Socioeconomic Factors
SPSS	Statistical Package for Social Sciences
SQ3R	Survey, Questioning, Read, Recite and Review
SRF	Student Related Factors
SS	Study Skills
SSI	Study Skills Inventory
TGEETP	Transitional Government of Ethiopia Education and Training Policy
WTI	Water Technology Institute

Abstract

The major purpose of the study was identification of combined and relative effect of student, institution and socioeconomic factors on female students' academic success in AMU. Relational study design was employed to achieve the objectives of the study. Purposive, stratified and simple random sampling techniques were employed to select samples for the study. 180 female students and 36 academic staff members were participated in the study. The independent sample t-test results indicated that there was statistically significant difference between low and high achieving female students at the 0.05 level (2-tailed) for all the three factors and/or for the variables involved in the study. The multiple regression analyses indicated that from the three factors, the effect of student related factors was the most significant one which explained 67% of the variance proportion on the academic success of female students and followed by institution related factors (46.8%) and socioeconomic factors (37.3%). The step-wise regression analyses indicated that from student related factors, study skills had the most significant effect on female students academic success with 60.4% of the explanation power of the variance proportion on female students academic success, followed by academic achievement motivation (5.2%) and finally by academic self-concept (1.5%). From institution related variables, instructors' attitude toward female students and instructors' classroom behavior (45.5%) took the largest share in explaining the variance proportion on female students' academic success and followed by facilities and services (1.3%). And finally, from socioeconomic factors, parents income was be able to explain 34.5% of the variance proportion on female students' academic success and parents' educational status was explained (2.8%) of the variance proportion on female students' academic success in AMU. From the two parents or guardians, mothers' educational and income status had the more significant effect on female students' academic success in AMU. Further analyses at variable level revealed that from the seven variables involved in the study, study skills had the most significant effect on female students' academic success in AMU and followed by instructors' related factors, academic achievement motivation, academic self-concept, parents' income, parents' educational status and finally by facilities and services in AMU as depicted in their descending order of effect on female students' academic success in AMU. The cross tabular analyses showed that inadequacies of facilities and services; negative attitude of instructors and their poor classroom approaches; inappropriate study strategies employed by female students, poor academic self-concept and low academic achievement motivation from the side of female students had substantial effect on female students' academic success in AMU. Provision of tutorial classes, provision of training, improvement on the grading system of the university, improvement from the side of instructors and female students were some of suggested proposals to tackle the low academic success problem of female students in AMU. Finally, based on the results of the study, provision effective, efficient and practical training, provision of tutorial programs, introduction of the pluses and minuses in the grading system, and celebration of "Girl's Day" were some of recommended points to overcome the academic success problem of female students in AMU.

CHAPTER ONE

1. Introduction

In this chapter the background of the study, the statement of the problem, the objectives of the study, significance of the study, delimitation and limitation of the study, the operational definitions and the organization of the study are succinctly presented.

1.1. Background of the Study

The economic development of a country, its political stability, social security, self-reliance in every aspect, maturity and exercising of democratic cultures, protection of once natural environment from destruction, and efficient utilization of the available resources are directly dependent on the quality and quantity of educated people in that country. Education is an important foundation on which the socioeconomic, cultural and political development of a country is based. It improves the individuals as well as groups capacity to be responsible and productive member of the society. Through these improvements it can alleviate poverty, demographic problems, and health and nutrition services and increases the value of human institution (Lockheed, 1994).

Understanding such benefits of education, many developing countries are allocating the lion share of their national budget for the expansion of educational programs. Most countries of the developing Third World now seem to believe in, and hence to emphasize, the view of education as a public industry in which society should consciously invest for manpower development. Consequently a sizeable proportion of their national budget has been spent on educating their people, with the expectation that the educated will undertake the many development tasks that require a trained and enlightened cadre, (Maliyamkono, Ishum, & Wells, 1982:3). Empirical evidence seems to suggest that increased education result in increased productivity, as measured by increased labor payment. Research and development is a function of higher education; thus mechanization and innovation become the end result of higher education (Maliyamkono, Ishum, & Wells, 1982:20).

One crucial connection which has become important in recent years is between economic prosperity and higher education. This applies both nationally and personally. The proposed expansion in student participation in higher education is justified partly because on the basis of research which suggests that a country whose populations have higher education will deliver competitiveness in the economic field. Another strand of justification, the 'equality of opportunity' agenda, is also rooted in the link between higher education and financial gain. The opportunity which is more frequently discussed is the opportunity to earn a higher salary than the ones available for most non-graduate work. And this is the basis on which the expansion in higher education is funded. It would be possible to speak, idealistically, of another sort of 'opportunity', and to suggest that people from all sectors of society should have access to the quality of life and the range of intellectual opportunities offered by a university education (Round, 2005). Therefore, higher education can play its role as engine for societal and personal development if and only if all competent and capable citizens of a country without any discrimination participate and complete the program successfully. A country with half of its population (women) seldom attain higher education or those women joined higher education are unable to complete the program successfully, that country will not achieve the social, economic, political and technological advancement as it strived.

When higher institutions open their doors wider to girls and women, as well as to boys and men, and they facilitate their success the benefits multiply for the nation. Indeed failing to invest adequately in educating women can reduce potential benefits of educating men. Yet women's education still lags far behind men's in most developing countries, with far reaching adverse consequences for both individuals and national well-being (The World Bank, 1995: 1).

There are a number of convincing evidences that the educational benefits are larger for the public than the women who are educated. As would be mothers the effect of girl's education improves child's education, family health, diet and hygiene and a family with educated mother enjoys greater economic productivity. Moreover, educated women are found to be marrying later and practice family planning. Many of the benefits of educating women in developing countries are public, whereas those of men are private (King and Hill, 1993).

Despite the importance of women's education in general and their participation in higher education in particular, females' education is surrounded by a number of problems. In the poorest countries inequality is between male and female reflected in lower enrollment rates, higher dropout and

repetition rates and lower levels of attainment for girls. From this, it is possible to classify the problems of female education into two broader categories- access and success. But, these two categories are by no means independent. Access and success are inseparable. This is because, without enrollment of girls it is impossible to talk about their success and if the enrolled are unsuccessful (means if they repeat continuously, dropout (withdraw), and unable to complete a given program or attain lower scores) it adversely affect the rate of enrollment (King & Hill, 1993:101).

With regard to access to higher education in Ethiopia, improvements have been seen after the implementation of the Program of Female Affirmative Action since 1996 (Aneneh, 2000). Similarly, the data obtained from the Education Statistical Annual Abstract (ESAA, 2006/7: 57) showed that the problem of access to higher education has shown some improvement, the percentage of female students joined higher education has increased from 16% in 2002/03 to 28% in 2006/7; within five years it has shown 12% increment. When this is compared to 1994, the share of female students enrolled in the higher education was only 10.6%. In addition to this, access to secondary and higher education is becoming more understood and funded by some of the key figures in the country. Here it is reasonable to mention the personal commitment of Meles Zenawi's the Prime Minister of the Federal Democratic Republic of Ethiopia to improve female students' educational access to secondary and tertiary level all over the country. This is because our Prime Minister is providing financial support for more than thousands of female students all over the country aiming at increasing the number of female students' enrollment at secondary and tertiary programs of the educational system (Gamo Goffa Zone Women's Affair Department). Similarly, Article 3.9.5 of the Transitional Government of Ethiopia Education and Training Policy stated that "The government will give financial support to raise the participation of women in education." From this, it can be inferred that the problem of female students' access to education at various program levels of the educational system is at least understood by people at the top decision making positions and the policy document. Whereas the most severe problem that has not got due attention from the respective bodies is the problem of academic success in the higher institutions of Ethiopia. Majority of female students leave the campuses of higher education before the year of graduation or some of them are unable to complete their study in a predetermined year of completion. The problem of female students' academic success has a number of negative effects. First, it results in high material, human and capital resource wastage through increasing the number of dismissals, withdrawals and late graduates. Second, it decreases the competitive potential of females by decreasing the number of female graduates, by

reducing their cumulative grade point average to the lower GPA category and so on. Thus women are marginalized from top decision making positions, key managerial areas, and well paid jobs which require higher level of education and concomitant competencies. Third, it decreases the self-concepts of female students at lower grades and by that it reduces the numbers of female students enroll or continue their education. This is because, if those girls who join schools or higher institutions are unable to complete the program successfully, other female students hesitate to join or continue their education. Fourth, it greatly affects those female students facing the problem through decreasing their social relationship with friends and family, increases their psychological distress and the like. Finally, it affects the overall development aspiration of the country by decreasing the participation of educated citizens in the development process of the country. Therefore, this study gave due emphasis on determining the relative effects of factors that contribute to low academic success of female students in Arba Minch University (AMU).

1.2. Statement of the Problem

It is well known that, most female students that join higher institutions do not complete their learning within the prescribed minimum period of time. Some of them may return home for academic dismissal; others may fill withdrawal; some may graduate after taking three or more courses in the summer months after their batches are being employed; and some may stay for more than five years in order to have a bachelor degree which requires only three or four years to complete. Thus, regarding females' higher education, the most important question to be raised and answered should be how many of those girls enrolled in the tertiary level successfully complete their study within the normal timeframe set to complete a given program and with good average grade point? For instance, from the total number of 27, 989 female students joined tertiary education in 2002/3 (freshman origin) and in 2003/04(preparatory origin) only 4,095 (14.6%) were graduated in 2005/6. The rest 23,894 (85.4%) were unable to complete the program on the prescribed academic calendar. The same is true for 2004/5 batches. Out of the 30,617 female students joined higher education institutions in 2004/5, only 5,371(17.5%) of them graduated in 2006/7. The remaining 25,246(82.5%) lagged behind or majority of them were dismissed for academic reasons (ESAA, 2006/7: 53-56). Similarly, the percentage of female graduates accounted for 11%, 15.2%, 16.4%, 16.2% and 18% for years 2002/3, 2003/4, 2004/5, 2005/6 and 2006/7 respectively. Even if the percentage share of female graduates increased from 2002/03 to 2006/07 still it is far below compared to the numbers of female students

enroll in the universities and the number of male graduates from universities (ESAA, 2006/7:56). Therefore, academic success problem of female students' is a practical problem that affects majority of female students joining higher institutions in Ethiopia.

According to Tesfaye Gebeyehu and Fasil Tsegaye (instructors in the Arba Minch University), the problem of female students' academic success was very serious in the University. The university was known for its dismissal of female students for academic purpose, low percentage rate of female graduates and high attrition rates of female students. According to the instructors, this indicated that AMU was providing quality education and let the academically able and capable students to graduate. Dismissing many students particularly female students should have not been seen as the indicator of provision of quality education, this is because female students had not got chance to work as to their potentials. Thus the high attrition rate, large number of female students' dismissal for academic reasons, and the low graduation rate of the female students in Arba Minch University might be the indicator of lack of quality education and inefficiency in the provision of education in the university (Personal communication, September 13, 2008). In addition to this, Chombe (2005) reported that from 1993 to 1996 88.6% of female students dropped out their education from six engineering departments of AMU whereas the percentage for male dropouts was only 21.1%. Thus the problem of low female students' academic success was a prevailing problem in AMU (p. 50).

Similarly, as it is indicated in ESAA (2006/07:120), from the total number of students enrolled at various institutions in Ethiopia, the percentage of female students graduated compared to the number of female students enrolled in Arba Minch University in the academic year of 2006/7 were the lowest of the nine well known universities in the country. To show this, percentage of female students' graduated in 2006/07: Addis Ababa 23%; Bahir Dar 15.8%; Dilla 15.1%; Hawassa 17.2%; Adama 18.2%; Jimma 21.7%; Mekelle 19.3%; Gondar 27.5% and Haramaya University 21.8%. From this the highest percentage of graduation per enrollment was observed for Gondar University 27.5% and the smallest was in Arba Minch University which was 11.3%. The percentage for Arba Minch University was far below from the country average percentage of 21.1% and from the other universities. If most of those girls enrolled at tertiary level are unable to effectively complete the program, the country may not be able to effectively utilize the productivity, talents and hidden intellectual capacities of half of its population (women). This puts the country's striving to bring overall development in question. And

the condition decreases the competitive capacity of females in every aspect of life, it forces them to be concentrated in the lower job structures, lower salary range and low status social areas.

The problem of female education is not a new predicament. A number of studies have been conducted since 1914. Even in AAU's graduate libraries there are more than 20 theses written more or less on the issue. Most of these theses are concerned with the problem of access, lack of equity and some on the academic achievement of female students especially in science subjects. The major contribution of these research findings can be grouped into two. First, some of these studies especially from the Departments of Educational Planning and Management and Curriculum Studies focused on the identification of the factors that affect female students' academic achievement, enrollment, retention and promotion at various levels of educational systems [Desalagn (2006); Getachew (2004); Tadesse (2001); Mekashia (2000); Alemayehu (2006); and (Rose et al.; Asefa; and Yelifign et al. as cited in Mekasha, 2000)]. According to these studies, the factors that affect female students' participation, retention, promotion and academic performance can be arranged into four major groups. First, school related factors include quality of learning environment, distance from school, relevance of curricula and textbooks and teachers attitude towards girls; second, socio-cultural factors include issues such as parents' decision to send their children to school, their perception with regard to the cost of schooling and the traditional view of educating sons benefit more than girls and the like; third, socioeconomic factors include parents' level of income and socioeconomic status, direct and indirect cost of schooling, the educational background of parents; and finally, political factors include inappropriate priorities set for various educational programs, government approach with national policies that shows low commitment to promote girls education and the low status given to women in some areas.

Second, other researchers especially from the department of Educational Psychology were tried to identify the association between academic achievement and other several psychological and socioeconomic variables in light of gender differences Aemero (2005); Chombe (2005); Lishan (2004); Andualem (2007); Girma (1997); Adinew (1997); Tadesse (2006); Mustofa (2006), Kifle (2004), Effrem (1999) and Solomon (1999). For instance, Kifle (2004) found that secondary students' academic achievement is significantly related to study habits, academic achievement motivation and gender. He reported that 23% of academic achievement at high schools of Tigray explained by study habits, 3.18% by self-efficacy, 2.73% by academic achievement motivation, and 2.19% by gender of the student. Kifle further reported that study habits were the major predictor of male students' academic

achievement and academic achievement motivation were the best achievement predictor for female students. Aemero (2005) found that 88% of students' academic achievement was explained by parents' educational background, cognitive strategy use and self-regulation. Out of these, 79% of the total variation was accounted to parents' educational background, 6.5% by self-regulation and 2.5% was by cognitive strategy use. According to Mustofa (2006) the predictor variables gender, science self-efficacy, science achievement motivation and attitude toward science accounted 16.98% of prediction in science performance. Similarly, Garuma (2005) reported that academic self-concept was the significant predictor of academic achievement and accounted for 14.7% of variance in academic achievement. According to Fassil et al. about 10 to 25 percent of the variation in achievement scores among pupils is the function of family socioeconomic differences that can be measured by education, economic and occupational level attained (as cited in Adane, 1993, 56).

Despite their contribution to girl's education through the consideration of the above variables, previously conducted theses have a number of weaknesses. First, even though most of them have tried to identify the factors that affect female students' education or their academic achievement, they gave less attention to student related factors like study skills, self-concept, and academic achievement motivation. Students' motivation, attitude toward specific subjects or courses, academic self- concepts, study skills like time management, reading skills, note taking skills, and concentration have profound effect on the academic success of the students. Second, in most theses, the researchers were merely identified association between GPA and/or students' academic achievement and some other variables rather than ranking such variables in terms of their effect on students' academic achievement. For instance, researchers from the Department of Educational Psychology usually use gender as a variable to observe if there was difference between male and female students and to measure that difference Kifle (2004) and Mustofa (2006) without considering the effects of each variable on female students' academic achievement. Third, most of previous theses and studies were conducted at primary, secondary and to some extent at college level which is unable to address problems at universities. Fourth, the association between institution related factors like instructors' attitude toward students, instructors' classroom instruction and facilities and services and students' academic achievement (academic success) was seldom attempted by previous studies in Ethiopian context. Finally, the scope of the previous theses were specific and unable to address the multifaceted problem of female students, for instance, researchers from Educational Planning and Management focus on institution related factors and those from Educational Psychology focus on student related and socioeconomic

variables. In order to improve some of the aforementioned weaknesses of the previous studies in mind the following research questions were formulated.

1. Was there significant difference between male and female students in their academic success in Arba Minch University?
2. To what extent did student factors affect female students' academic success in Arba Minch University?
3. Did institutional factors have significant effect on female students' academic success in Arba Minch University?
4. To what extent did socioeconomic factors affect female students' academic success in Arba Minch University?
5. Which factor exerted greater pressure on female students' Academic success in Arba Minch University?

1.3. Objectives of the Study

The study had general as well as specific objectives

1.3.1. General Objective: This research intended to investigate and weight the factors that affect female students' academic success in Arba Minch University and thereby to suggest possible solution.

1.3.2. Specific Objectives: The specific objectives of this study were:

1. To identify the academic success gap between male and female students in Arba Minch University;
2. To determine the effect of student related factors on female students' academic success in Arba Minch University;
3. To identify the effect of institution related factors on female students' academic success in Arba Minch University;
4. To determine the effect of socioeconomic factors on the academic success of female students in Arba Minich University;

5. To determine the relative contribution of factors affecting female students academic success in Arba Minch University; and
6. To suggest possible solution to tackle the problem of low academic success in Arba Minich University.

1.4. Significances of the Study

The study has a number of benefits and beneficiaries. First, the university deans, department heads, administrators, instructors and counselors understand the severity of the problem and by that utilize the suggested solutions or intervention mechanisms in order to improve the academic success problem of female students in Arba Minich University. Second, the researchers who are interested to conduct their studies on related issues could refer to it. Third, policy makers and people in key decision making positions may use the findings of this study to set priority and produce a possible intervention mechanism. Fourth, the female students at lower educational levels benefit much if the intervention mechanisms suggested in this study are fully implemented. Moreover, the female students currently learning in higher institutions may benefit from the study in order to identify which of the factors contribute much to their low academic success and take some measures.

1.5. Delimitations of the Study

The findings of this study were fixed both in space and scope. With regard to the space (place where the study was conducted), it was limited to Arba Minich University especially to the five faculties and thirteen departments involved in this study. Regarding the scope, first, the study was limited to eight variables such as study skills, academic self-concept and academic achievement motivation from student related factors; facilities and services and instructors' attitude and instructors' classroom behavior from institution related factors and parents educational background and parents' income status from socioeconomic factors. Second, the scope of the study was limited to the academic success of students rather than the social aspect of student success. Finally, the study focused on second year and above regular female students in AMU. Thus firs year regular, all extension and all summer program female students were excluded from the study.

1.6. Limitations of the Study

First, inability to measure the effects of all variables that affect female students' academic success in AMU was one of the limitations of this study because of time, money and even from the complex nature of the factors involved. Second, even though academic success should have been measured using various indicators of academic success, in this study female students cumulative GPA was considered as the sole indicator of student success. Finally, inability to get back much of the questionnaires distribute to the academic staff respondents was another hardship for the student researcher. The researcher tried to overcome such limitations first by identifying major variables that thought exert greater pressure on female students' academic success from literature and from the study area by assessing the major problems mentioned by the university community at the phase of problem identification. Second, GPA was taken as the most important predictor of academic success of female students. This was because all other indicators of academic success (which were clearly discussed in the second chapter of this study) were resulted from the level of grade someone has. For instance, dismissal for academic reason was one of the indicators of academic success but it happen when someone's GPA falls below the minimum criteria. Finally, the analysis of the academic staff respondents was based on the number of questionnaires returned.

1.7. Operational Definition

Academic Access: It is a process of getting chance to join higher education.

Academic Achievement: A measure of knowledge gained in formal education usually indicated by test scores or grade point average (Singh, 2007).

Academic Performance: Is a non-verbal ability or intelligence of accomplishing of an action, operation or a process (Singh, 2004:58).

Academic Self-Concept: Is the evaluation which the female students make and customarily maintain with regard to their academic abilities, capabilities, skills and potentials help them to succeed in their field of study. In this study academic self-concept and academic self-esteem were used interchangeably.

Academic Success: Is the achievement of an academic endeavor, the attainment of a desired end, or a successful undertaking or achievement of a certificate or degree.

Explanatory (Independent) Variables: Variables which have effect on female students' academic success (GPA).

Female Students: Year II and above female students in Arba Minich University.

High Achievers: Refer to female students whose GPA is greater than or equal to 2.00.

Institution Related Factors: Refer to facilities and services and instructors' related factors such as attitude toward female students and classroom behavior in Arba Minich University.

Low Achievers: Refer to female students whose GPA was below 2.00.

Academic Achievement Motivation: Refers to the interest, initiation and eagerness to persist in academic activities in order to in ones field of study.

Outcome (Dependent) Variable: The variable which is expected to be influenced by the explanatory variables in this study. In this study CGPA was a dependent variable.

Socioeconomic Factors: Are factors related to the income, occupation and education level of parents of the respondents.

Student Related Factors: Refer to the factors attributed to students on their academic success.

Study Skills (Habits): Refer to individual student's way of tackling academic work. Time management, study strategy, concentration, listening and note taking, reading (studying) strategies and preparing for and taking exams are considered.

1.8. Organization of the Study

The study was organized into five chapters. The first chapter was an introductory part where background of the study, statement of the problem, general and specific objectives of the study, significance of the study, delimitation and limitation of the study and operational definitions of the variables and terminologies were presented. The second chapter was review of related literature. Methodology part of the study was described in the third chapter. In the fourth chapter data presentation, analyses and discussions of the findings included. Finally, the fifth chapter was about summary, conclusion and recommendation.

CHAPTER TWO

2. Review of Related Literature

A literature review was undertaken to provide context for the research findings. This indicated that it is important to consider the whole student, institution and socioeconomic factors that affect female students' academic success in order to come up with some fruitful findings. The review literature gave due attention to the concept of academic success, some of important reasons why female students' academic success considered as the central theme of this study, and factors affecting the academic success of female students.

2.1. Concept and Definition of Student Success

The concept of student success is much broader than the concept of academic success. Student success covers all the necessary skills and knowledge that help students to live in a given society. Regarding this, Nidds and McGerald (1996) contended that today's youth need to know a great deal more than reading, writing, and arithmetic in order to succeed. Their study in US identified seven characteristics of successful student. As they indicated, according to key business leaders in the US, students who are to succeed in the 21st century America must be:

> *Able to analyze, synthesize and evaluate information; able to effectively communicate with others; proficient in science, mathematics, computer (technical skills), foreign languages as well as history, geography and global awareness; capable to collaboratively working in culturally diverse setting; leaders who see project through completion; responsible decision makers who are self-motivated and active political participants; and ethical individuals who are committed to their families, communities and colleagues (Nidds & McGerald, 1996).*

In the same way, Educators' conceptions of the successful students (the student who succeed in his/her study) seem to parallel those of the key business leaders queried. Successful students they maintain, have learned to effectively balance the social and academic aspects of school, expect to succeed, and may be described as socially proficient, goal oriented, and intrinsically motivated (Ellis & Worthington, 1994).

Messrsmith's (2007) conception of student success seemed different from the above definitions. To Messrsmith student success means the ability to:

> *Understand the rights and responsibilities that allow us to function as contributing member of our democracy; cooperate and collaborate with others in work, social and family setting; make independent decision based on reasoning supported by facts gathered and analyzed by students; relate in a positive and constructive manner with family members and other members of the world community; and take responsibility for one's own actions and act supportively and compassionately towards others.*

Messrsmith (2007) adds that, maybe, though, it would be easier to list things that should not be included in our definition of student success. It is not a sign of student success to score highly on an arbitrarily chosen standardized tests; help beat a rival football, basketball or wrestling team into submission; have every student specialize in science, technology, engineering, or math in order to beat the Chinese in the economic realm; efficiently perform repetitive tasks in a factory setting.

Even if Mesersmith's conception of student success seems contrary to that of aforementioned key business leaders and educators' conception, the general impression is the same. Messersmith has given due attention to the social aspect of student success while the key business leaders and educators perceived both academic and social aspects of student success as equally important to explain student success. Mediating these, Colbster, saw that student success is twofold - social and academic (as cited in Hoyt, 1998). Covering the social and academic aspect of student success is beyond the scope of this study, thus only academic success of female students considered in this study.

Academic success holds a central position in student success. According to Feldman academic success is academic attainment that brings one closer to fulfilling one's goal and dreams. Success is not just reaching an end or a mere completion of a program, such as handed one's diploma. It is a process and occurs because it is aspired and worked to make it happen invariably it includes aspiration, effort and strategies for achieving better outcomes (as cited in Assefa, 2005:29).

Thus, academic success refers to the effectiveness of the students in their academic setting, ability to achieve higher grades, ability to effectively complete a given program of study with in the predetermined timeframe, capacity to withstand several academic challenges that may force the student to withdraw, dropout, achieve lower grades, repeat or terminate his/her study, and ability to

hold the necessary transferable skills which make the students more effective and efficient in their desired profession at the time of her/his employment.

2.1.1. Characteristics of Academically Successful Students

Altizer and Patteryon identified that academically successful students are identified by at least five characteristics:

> ***Attend classes regularly:*** *- They are on time and listen and train themselves to pay attention. If they miss a session, they feel obligated to let the instructor know why before class begins it possible and their excuses are legitimate and reasonable. They make sure they get all missed assignments by contacting the instructor or other students, and understand specifically what was covered in class. Successful students take responsibility for themselves and their actions;*
>
> ***Successful students are affective in class:*** *- They do not talk, read, or stare out windows. In other words, they are polite and respectful even if they get a little bored. They also participate in class even if their attempts are a bit clumsy and difficult. They ask questions that the instructor knows and many other students may also have;*
>
> ***Successful students turn in assignments that look neat and sharp:*** *- They take the time to produce a final product that looks good, and reflects of hard work and they seem driven to complete their assignments. All work and assignments are turned in even if some of their responses are not brilliant;*
>
> ***Successful students take advantages of extra credit opportunities when offered:*** *- They demonstrate that they care about their grades and are willing to work to improve them. They often do the optional (and frequently challenging) assignments that many students avoid; and*
>
> ***Successful students see their instructors:*** *- They see their instructors before or after class or during office hours about grades comments on their papers and upcoming tests. They demonstrate to the instructor that they are active participants in the learning process and that they take the job of being a student seriously (as cited in Wubetie, 2007:29).*

2.1.2. Benefits of Being Successful Student

According to National Center for Education Statistics (2001), student success is important because it is strongly linked to the positive outcomes we value for our children. Not surprisingly research shows that adults who were successful students are more likely to continue their education, to be employed and earn higher salaries.

Research also showed that people who academically successful are more stable in their employment; more likely to have health insurance; less dependent on public assistance; less likely to engage in criminal activities; more active as citizens and charitable volunteers; and Healthier. (National Alliance of Business, Inc, 1998)

2.1.3. Indicators of Academic Success

Literature evidence seems to be deficient in clearly identifying the indicators of academic success or failure directly. Magdol (1992) in his study mentioned four indicators which are useful in reporting students' academic success or failure at secondary level. These are percentage of students' dropout; percentage of students' complete high school and join College; average achievements on standardized tests; and percentage of students retained in a given educational program.

Similar to Magdol, the New Hampshire Department of Education (as cited in ToutKoushian and Curtis, 2005: 259) used average test scores of students and percentage of students who go on to College as a common measure of student outcome. Toutkoushian and Curtis (2005:260) extended the two indicator used by the New Hampshire Department of Education to three in order to measure the school outcome in their study. These were average test scores of the students; percentage of students who got on to college; and percentage of students who have been held back.

Some studies conducted in higher institutions of Ethiopia (for example, Yalew (2003) utilized attrition rate as indicator of academic failure. Considering this literature deficiency in clearly stating the indicators of academic success or failure of students, and associating the idea to the operational definition of student's academic success given, for the purpose of this study indicators of academic success may include:

Percentage of students withdrawn compared to enrolled; percentage of students dismissed for academic reason compared to enrolled; percentage of students registered in Dean's List compared to enrolled; percentage of students got cumulative GPA above/below pass mark; and percentage of students graduated with in the shortest time assigned to complete a given program of study compared to enrolled.

2.2. Why Female Students Academic Success in Higher Education?

There are a number of reasons why female students' academic success in higher education was the central theme of this study from theoretical as well as empirical perspectives.

2.2.1. More Female Students Fail than Succeed in Higher Education Institutions of Ethiopia

Most female students join higher institutions of Ethiopia are characterized by having low CGPA, experience high attrition rate, affected by frequent academic dismissal, and low completion rate. Studies conducted in Alemaya (Harumaya), Jimma, Debub, Bahir Dar, Gondar, Arba Minch and Addis Ababa Universities indicated that the success rate of female students was lower than male students. For instance, Hedija (2002) contended that a case study from two faculties at Alemaya University showed that there was variation in performance of female and male students. Female students obtained lower cumulative GPA in the faculties of Health and Education as compared to the male counterparts. Abebayehu showed that among female students admitted to higher education from 1979-1985 half of them could not succeed in finishing their education (as cited in Anteneh 2000). Similarly, Yalew (2003) reported that the attrition rate was higher for female students compared to male students in Bahir Dar University. According to Yalew (2003), 58.8% of female students and 34.2% of male students discontinued their education for various reasons, of which academic dismissals took the largest share (59.46%) of the total attrition rates. He also showed that gender had the highest positive effect on GPA showing that male students had higher mean GPA than female students. The rate of survival for males was by far higher than that for the females – 68.8% and 43.2% respectively.

In addition to this, the studies conducted in other higher institutions of Ethiopia indicated that the academic success of female students is lower than that of male students. Asresash, Ruth and Kassahun

(2002:262) contended that when female students enter places of higher education, they were still hampered by their socialization and the low expectations received from their home and society at large which affect their academic achievement and force most of them to obtain lower grades. In studies of medical students at Gondar College of Medical Sciences in Ethiopia, differences in academic performance between male and female were observed during the early phases of medical education. Social and psychological factors were cited as reasons and it was also shown that female students reported more feelings of isolation and discomfort than male peers. Among the nursing students at the same institution attrition rates for females were higher than for males. In their study, Asresash et al. (2002) reported that the attrition rate of female students was higher than male students in Jimma University.

Supporting evidence also came from Debub and Addis Ababa Universities. Demewoz, Mehad, and Tesfaye (2005) found that males outperformed females in academic achievement measured by Cumulative Grade Point Average (CGPA) in Debub University. Likewise, Fentaw (2001:54) found that from female students who joined Addis Ababa University College of Social Science in 1994, 46% were successful or graduated in a four year uninterrupted study period whereas the rest 54% were dropped out. He also showed that from the dropouts 75% were academic dismissal and 25% were withdrawals for various reasons. Dropout (attrition rate) has been a serious and long standing problem in higher institutions of Ethiopia. Similarly, Chombe (2005:50) reported that from female students enrolled from 1993 to 1996 in Arba Minch University 88.2% dropped out. Moreover, Seyoum (1991) contended that female students were poor survivors in higher education institutions of Ethiopia. He put that "It is one thing to join higher education institution and it is another thing to complete the program successfully."

From the above evidence, it is possible to conclude that most of female students enrolled in the higher institutions of Ethiopia are characterized by low academic achievement measured by their CGPA; high attrition rate or dropout; low survival rate; and low graduation rate within normally determined year of completion. Therefore, the problem of academic success is a real one and it should be addressed appropriately.

2.2.2. Females Access to Higher Education in Ethiopia at least has got Recognition

Knowing the inequality in access to education, lack of quality and wastage in the educational system, problem of relevance and the like, the current government of Ethiopia has come up with New Education and Training Policy (MoE, 1994). In the New Education and Training Policy females education has got considerable attention. One of this is the introduction of Female Affirmative Action Program or Positive Discrimination.

According to Anteneh (2000), Female Affirmative Action Program has addressed the problem of education inequality in the higher institutions of Ethiopia by introducing two basic conditions. These two forms of affirmative action programs that have been implemented since 1996 are:

> *The lowering of the minimum entry of grade point average by zero point two (0.2) for female students to provide access opportunity to institutes of higher education; and reserving of 20% of the enrollment capacity of each department for female applicants free of competition with male applicants (p.* 23).

After two years of the implementation of the Affirmative Action Program, Abebayehu (1998) came up with the evidence that showed the contribution of the program in increasing the number of female entrants in the higher institutions of Ethiopia. Abebayehu contended that as a result of affirmative action strategy, female students' enrollment at undergraduate degree level grew from 8.5% in 19985/86 to 13.5% in 1996/97 (as cited in Anteneh 2000:31).

Substantiating to the findings of Abebayehu, Minstry of Education (MoE) reported that as a result of such improvements in the policy aspect, the enrollment of girls at tertiary level was increased from 10.6% in 1995 to 25.2% in 2005 (MoE, 2005). According to Teshome (2003) special provisions (Affirmative Actions or Positive Discrimination Policies) for female students and students from relatively underserved regions were implemented. Agreement has reached with all institution to reach 30% female participation by 2005.

The above evidence showed that females' access to higher education is clearly understood by policy makers, top politicians who have considerable power to make important decision and other key

figures in the country. But the issue of academic success has not got attention as access does. That is why from female students join higher institutions the majority return home before they successfully complete their education. In healthy environment access and success are inseparable. One reinforces the other. And trying to address access without considering success and vise verse totally disrupts the accomplishment obtained in one of these aspects. Substantiating this, Fentaw (2001:62) contended that since the purpose of affirmative action strategy has been limited to admitting more female students without a concomitant effort aimed at helping them to academically cope with university demands, academic failure of female students is unavoidable problem. Therefore, academic success of female students has to be independently researched.

2.2.3. Academic Success is a Key to Improve the Social, Economic and Political Status of Females

It is very upsetting to report the improvements on women's conditions merely by considering the number of female population enrolled at various level of the educational system. This is because, not only access but also success play enormous role in improving the situation. The competent citizens are those who effectively succeed in their studies, having the necessary skills to be more effective and efficient in their profession and other life aspects. Therefore, barriers for females' academic success must be addressed to pull them out from the depth of manmade deep pit not nature created.

First, academic success is important to improve the economic condition of females and to redirect the occupational structure of women that caused by low educational access and particularly by low academic success. According to the World Bank (1995:2) women are employed in lower paying jobs and in narrower ranges of occupation than men. According to Psachropoulos and Tzannates women's wages are typically only 60-70 percent of wages earned by men and about one-quarter of the gender wage gap is explained by differences in educational level, labor market experience, and other human capital characteristics (as cited in World Bank 1995:17).

Regarding their line of occupation, Orodho (1992) contended that in any given cultural situation women are found clustered in certain types of activities, and most of these related to women's roles as providers of food, water, child care and "sex-companionship". This is not only true of the informal sectoring of third world cities, but also of western industrialized economies were women are primarily

sectoring of third world cities, but also of western industrialized economies were women are primarily found in service jobs such as housecleaning, washing, ironing, sewing, grocery, shopping, carrying water, and buying fuel take up large amount of time, especially when public services are absent. Therefore, to raise women's income and to change their occupational stream and position to top and middle decision-making places they have to be academically successful.

Academic success is a key to increase political consciousness and to raise political participation of women's in the political system of a given country. According to Berouk (2004:18) in many parts of the world, women are either excluded or marginalized from high level political arrangements. Indeed, the proportion of men elected and appointed as political leader and decision-maker compared to women in the same position is highly skewed, with men overwhelmingly dominating the political field across the world. Despite the number of women as half as or slightly more than half of the world population, they constitute/ hold very few positions in political scene and key decision- making posts. Therefore, giving access to education may not be satisfactory solution to solve the problem. Moreover; mechanisms have to be designed to keep those girls who join higher education and help them effectively complete their education with good grades.

2.3. Factors Affecting Female Students Academic Success

King and Hill (1993:108) put the general framework of factors affecting females' education (enrollment, dropout, grade repetitions, and academic attainment). At the beginning they broadly classified these factors as inside the educational system and outside the educational system. And then, they identified socio-cultural factors like marriage, social and cultural pressure surrounding engagement, and initiation rites; family factors like socioeconomic background, attitude about educating girls, and mother's educational level; and school characteristics like school quality and curriculum and lack of role models as major factors affecting girls' education.

Magdol (1992), identified factors affecting academic success of students as individual factors include poor self-concept and low academic interest, alienation from school, behavioral problem like drug and alcohol use and abuse, delinquent behavior, learning style mismatch and earlier school problems in academic areas; family factors include low socioeconomic status, ethnic minority status, single parent

and step-parent family, maternal employment, low parental aspiration, and expectations and parenting style; peer factors include lack of friends, friends with school problems and friends with negative attitude; school factors include alienated teachers, inflexible curriculum, lack of counseling services for at risk students, school transitions, weak administrative support, large school district, large schools, low participation in extracurricular activities, negative school climate and uninvolved parents; work factors long work hours; and community factors like low socioeconomic level and lack of community resource.

Cokley, Kevin, Bernard, Cunningham and Motoike (2001) contended that in addition to cognitive factors such as IQ and standardized test scores, which have traditionally been associated with academic achievement, it is also important to examine the non cognitive factors associated with academic performance such as achievement orientation, achievement goals, academic self-concept and motivational orientation.

2.3.1. Student Related Factors

Students as one of the most important input in the teaching learning process and being central for the existence of the educational system can play a great role in enhancing academic success or failure. Regarding this, Cottrell (2001:16) contended that students' attitudes, motivation, self-concept, and approaches to higher education study can be key factors in successful learning and may act as either inhibitors or motivators. Some of the approaches that students bring to their studies can lead them to under performance, withdrawal or failure regardless of their ability. The three students' related variables selected for this study were achievement motivation, self-concept, and study skills. These three psychological constructs are not familiar for an educator therefore, the literature part on these constructs focus on three areas- first the concepts of each trait clarified, second their relationship to students academic success discussed and finally the psychological traits and female students position described.

2.3.1.1. Poor Academic Self-Concept

The beliefs someone has about his or her academic potential which is accumulated through his or her life time and their current status in performing the academic tasks in their specific field of study greatly determines one's academic success.

2.3.1.1.1. Concept and Definition of Self-Concept

By self, we generally mean the conscious reflection of one's own being or identity as an object separate from other or from the environment. Valdosta (2004) contended that self-concept refers to the general idea we have of ourselves and self-esteem can refer to particular measures about components of self-concept. According to Kuehn (2007) self-concept is the nature and organization of beliefs about one's self; people have separate beliefs about their physical, emotional, social aspects of themselves. It is multi-dimensional; Self-Esteem: refers to general feelings of self-worth or self-value; self-efficacy: is belief in one's capacity to succeed at tasks. Poor academic self-concept thus may be conceived as having low self-perception in ability to do academic tasks which the individual accumulated for his age.

Franken states that "there is a great deal of research which showed that the self-concept is perhaps the basis for all motivated behavior. It is the self-concept that gives rise to possible selves, and if it possible selves that create the motivated behavior" He also suggested that self-concept is related to self-esteem in that people who have good self-esteem have a clear differentiated self-concept. When people know themselves they can maximize outcomes because they know what they can and cannot do (as cited in Pajares & Miller, 1994:193).

According to Pajares and Miller (1994:194) there are several different components of self-concept-physical, academic, social, and transpersonal. Our academic self-concept relates to how well we do in school or how well we learn. There are two levels: a general academic self-concepts of how good we are overall and a set of specific content related self-concept that describe how good we are in math, science, language, arts, social science and the like.

Schavelson, Hubner, and Stanton introduced a hierarchical model that differentiated between general, academic, social, emotional, and physical self-concepts. Academic self-concepts were further differentiated as English, History, Science, or Math self-concepts. This model is now widely accepted and researchers warn that using globalize is of limited value. Self-concept judgments in academic endeavors, however, may be subject or course specific, but they are never item or task specific. They are not specific assessments of capability. Compared with self-efficacy judgments, self-concept judgments are more global and less context dependent. The course specific self-concept questions, "Are you a good math student?" taps different cognitive and affective processes than the self-efficacy questions, "can you solve this specific problem?" Self-concept theorists have argued that an individual's self-concept mediates the influence of other determinants on subsequent performance and is the stronger predictor of his/her performance when those determinants are controlled (as cited in Pajares & Miller, 1994: 194).

2.3.1.1.2. Academic Achievement and Self-Concept

Koller and Baumert, (2001); Liidtke, et al. (2002); Marsh (1990); and Marshet et al. (2001), Self-concept, particularly academic self-concept as a general psychological construct is important in educational settings, found to be a reliable predictor of academic success or failure (as cited in Demewoz, et al., 2005:51).

Having reviewed self-concept published until the early 1980s, Byrne, Worth and Gavin concluded that there exists a positive correlation in areas of academic achievement and corresponding academic self-concept components. Subsequent studies also confirmed the existence of these relationships (as cited in Demewoz, et al., 2005: 52).

Marsh showed that the relationship of self-concept to school achievement is very specific. General self-concept and non academic aspects of self-concept are not related to academic success. Specific measures of subject related self-concepts are highly related to success in that content area (as cited in Valdosta, 2004). Using linear discriminatory analysis, Byrne showed that academic self-concepts were more effective than was academic achievement in differentiating between low-track and high-track students. Hamachek also asserted that self-concept and school achievement are related (as cited in Valdosta, 2004).

Meyer showed that high achievers had higher self-concept of ability; reported experiencing more support from teachers, parents and others; and demonstrated more active problems-solving strategies (as cited in Pollard, 1993:349).

2.3.1.1.3. Female Students and Academic Self-Concept

There number of evidence that suggest female students' academic self-concept is lower than their male counter parts.

For instance, Demewoz, et al. (2005: 63) in their study conducted on 254 sample students in Debub University found that males outperformed females in academic self-concept and academic achievement. In the some way, Chester found that at the college level, African American women had lower aspirations and reported lower self-esteem than African American men (as cited in Pollard, 1993:347).

According to Genet, since females in Ethiopian context encounter repeated failures in classes and get little or no significant encouragement from others specially parents and teachers to strive harder in academic settings, they will develop lower level of self-efficacy than their male counterparts (as cited in Kifle, 2006:20). Similarly, Demewoz, et al. (2005: 65) found that female students more than males, low achievers in national examination, students having low academic self-concept and students who perceived unfavorable perception of teachers' treatment (or behavior) achieve lower than those who perceive favorable treatment.

2.3.1.2. Academic Achievement Motivation

The willingness of students to persist in an academic task and their continuous withstanding to the challenging academic tasks they confront in the academic arena directly related to their academic achievement motivation.

2.3.1.2.1. Concept and Definition of Academic Achievement Motivation

Achievement motivation could be seen as self determination to succeed in whatever activities one engages in, be it academic work, professional work, sporting events, among others (Tella, 2007).

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The term motivation to learn is defined by Marshall as "the meaningfulness, value, and benefits of academic tasks to the learner-regardless of whether or not they are intrinsically interesting" (as cited in Kifle, 2004:22). According to Ames, motivation to learn is characterized by long term hour's study, quality involvement in learning and commitment to the process of learning (as cited in Kifle, 2004:22). Achievement motivation may be defined as the internal state of affairs which impels an individual to complete with some standard of excellence (John, 1957:191).

Atkinson defined achievement motivation as "the tendency to strive for a relatively better achievement. It is a person's disposition to approach success, thus it involves competition among people" (as cited in Girma, 1997: 21).

2.3.1.2.2. Academic Achievement Motivation and Academic Success

The reports of several studies indicated that in general, academic achievement motivation is directly related with academic achievement. But some of the studies suggested that the type of achievement motivation like intrinsic, extrinsic and amotivation showed differences on achievement level of students. However, all the studies confirmed that those students who are motivated for any one of the reasons do academically better than those students who are not motivated.

Regarding this, Brimer and Pauli ascertained that there is a general agreement that a child with higher achievement motivation will likely be competitive and adaptive to the situation he/she finds him/herself. Early failure in school would make children to be failure oriented. These children tend to lose their interest toward learning and do not expect themselves to successful. Failure oriented individuals do not only tend to fail in examinations but also tend to decide to discontinue their education. They further contended that despite the shortage of adequate information, it has been found that low interest towards learning would be accompanied by failure which, in turn, affect pupil's orientation towards success or failure (as cited in Adane, 1993: 55).

Newman et al., found that the relationship between achievement motivation and various school outcomes seems logical. According to this evidence, outcomes such as grades and academic performance are more likely to be affected by achievement motivation than other outcomes like commitment and assessment (as cited in Kifle, 2004:28).

McClellan and Weiner have revealed that individuals who possess high academic achievement motivation have the motive to obtain high academic performance and show the need to manipulate their environment. People of this type are also action oriented, have better planning ability, and have the interest to involve on demanding and challenging tasks. As a result, they tend to obtain superior performance compared to those with low level of academic achievement motivation (as cited in Kifle, 2004: 29).

According to Eysenck academic performance is a function of achievement motivation and study habits (as cited in Thompson, and Wilson, 1974:379). The relationship between achievement motivation and academic performance of college students has been reported by many researchers. For instance, Packwood indicated that the academic achievement of college students is affected by their motivation and is found to be the one of the first influential factor (as cited in Girma 1997:24). Likewise, Weiner and Potepan reported that the failing college students were found to be less in achievement orientation, less able to attribute failure to lack of effort than the successful students, and the failing students scored lesser on the achievement index than successful students (as cited in Girma, 1997:25).

Skinner and Belmont (1993:571) contended that highly motivated students are easy to identify. They are enthusiastic, interested, involved, and curious; they try hard and setbacks. These are children who should stay in school longer, learn more, feel better about them, and continue their education after high school.

2.3.1.2.3. Academic Achievement Motivation and Female Students

Most studies indicated that there are gender differences in academic achievement motivation. The overall findings can be grouped into three perspectives. The first groups of researchers hold the idea that male students' achievement motivation is higher than female students' academic achievement

achieve was actually lower in the achievement oriented conditions than in related or non achievement oriented conditions (as cited in Mustofa, 2006:21). In the same way Bandura et al. indicated that among different cultures boys have higher levels of achievement motivation than girls and they concluded that such observations are expected to be reflection of the socio-cultural influences on parenting and upbringing rather than built in differences (as cited in Musofa 2006:21). Substantiating this most of studies conducted in Ethiopia, for instance, Mustofa (2006); Kifle (2004); found that female students academic motivation is lower than that of male students in all subjects in general and science subjects in particular. Kifle (2006:31) contended that females were being labeled as having low scores in achievement motivation, for they have been showing less interest on tasks that are designated by the culture as males' trait. Females' achievement motivation, therefore, appears to be low if studied in situations that are stereotyped as male. Boys' expectations about their academic performances are often higher than girls' expectation. These sex based differences in expectation about academic achievement negatively influence girls' willingness to pursue some challenging academic arenas compared with boys' willing to do so. A few studies have investigated sex differences in achievement related variables among African-American students, for instance, Sewell, Farley, Mania and Hunt found that sex differences in achievement motivation favored male. But these researchers did not find a relationship between motivation and school achievement (as cited in Pollard 1993:345).

The second groups of researchers express gender difference from the perspective of types of achievement motivation. For instance, Farmer indicated that females were less intrinsically motivated and that their approach to achievement situation was characterized by learned helplessness (as cited in Mustafa 2006:21). Holding the same position, Weiner found that explaining success; women were more likely to use external attribution than were men. Furthermore, Bar Tal and Friezer found that females used luck to explain both success and failure more often did males (as cited in Mustofa 2006:22). Thomas and Shield indicated that although both boys and girls valued intrinsic and extrinsic reward of work, girls held stronger extrinsic values than boys (as cited in Pollard 1993:46).

The third groups of researchers argue that girls' achievement motivation is higher than that of boys. For instance, Kahn conducted study on junior secondary school subjects found female to have higher achievement motivation score than males (as cited in Kifle, 2006:32). Similarly, a study conducted by Lind Green et al. reported that achievement motivation scores correlated positively with Grade Point

Average for college samples that indicated statistically significant correlation only for females (as cited in Kifle, 2006:32).

2.3.1.3. Study Skills

The way how students approach a study material, the techniques they employ to understand and memorize a read material, the methods they use to take notes from materials or lecture classes, the way they manage their time, and the way they prepare for and behave in the exam room greatly determine their achievement and by that their academic success.

2.3.1.3.1. Concept and Definition of Study Skills

Some writers use the term study skills interchangeably with study habits. But in strict sense study skills are broader than study habits. Study skills refer to skills an individual approaches learning and study habits refer to the experience of an individual to learning. Study skills are necessary to succeed in learning. A student may fail or succeed based on the study skill he/she employ. Regarding this, Montgomery (1982: ii) contended that a student's ability to develop his/her mind depends considerably on his/her attitude toward his/her study.

Udom has defined study habits as "the adopted way and manner a student plans his/her private readings, after classroom learning so as to attain mastery of the subject." According to Udom, good study habits are good asset to learners because these habits assist students to attain mastery in areas of specializations and consequently excellent performance, while the opposite constitute constraints to learning and achieve leading to failure (as cited in Kifle, 2006:32).

Study skills may vary from one individual to another as well as vary with the level of the educational program. Confirming this, Montgomery (1982: ii) contended that now that the student has completed his/her secondary education, he/she must have a mature approach to work. This means several things. In the first place, the student must realize that it is he/she who is mainly responsible for his/her success at college or university. The role of lecturers is to support the students, not to do it all for him/her. The student must think of him/herself and dome to his/her own conclusion.

Regarding the scope of study skills, most researchers suggest six to eight areas to which effective study skills should be focused. For example, Landsberger (n.d.) identified six most important aspects of effective study skills. He pointed out that time scheduling; concentration; listening and note-taking; reading; writing; and preparation for and taking exams were important areas effective study skills depend on. In more or less similar classification, Chavez (n.d.) came up with seven sub-divisions of study skills. These were concentration; remembering; organizing time; study a chapter; listening and note-taking; taking test; and motivation. Finally, Marton and Salijo (1996) identified six sub-scales which are similar to Landsberger (n.d.) and Chavez (n.d.) grouping. These are textbook reading; note-taking; memory; test preparation; concentration; and time management. Thus, for the purpose of this study six sub-areas of study skills were selected. These were study (reading) strategy; time management; listening and note-taking; memory retention; concentration and preparation for and taking tests.

2.3.1.3.2. Study Skills and Academic Achievement

Most studies indicated that those students who employ effective and efficient study approaches are higher achievers in universities. Regarding this, Thoday reported that a fairly clear relationship between examination results and the amount of work done, but later studies failed to confirm this finding (as cited in Thompson & Wilson, 1974:383). Working on the assumption that students would find difficulty in reporting their activities accurately, Entwistle and Entwistele provided a special designed grid from which "hours worked" could be derived. Using this grid method consistently significant relationship with degree results have subsequently been reported (as cited in Thompson and Wilson, 1974:383).

Similarly, a continuous report of National Assessment of Educational Progress, (NAEP) U.S. described that the knowledge, skills and performance of the American children and youth in a variety of academic subjects have a strong relationship with their study habits. The study made on U.S. History by NAEP disclosed that high academic performance is positively related to good study habits. The study further explained that student's school performance is improved when they tend to improve their study habits (as cited in Kifle, 2006:35).

Another finding by Ikeotuonye and Bashmir, pointed out that poor study habits are the major causes of poor academic performance of high school students and good study habits have positive effect on academic performance(as cited in Kifle, 2006:35). Thopmson and Wilson (1974) reported that quality as well as quantity, of studying is important. Long hours of obsessive, but ineffective, work will rarely lead to academic success.

2.3.1.3.3. Study Skills and Female Students

A study made by Nneji indicated that most female students prefer study during weekends, being alone and for short period of time. He also reported that female students prefer to read for themselves and are not free to ask others and discuss with friends compared to males (as cited in Kifle, 2006:36).

Study is a skill, therefore, it is not static or naturally given to anybody. The previous study experience exerts profound effect on the college or university study habit. Supporting this, Kifle (2006:37) contended that at primary and secondary level, female students had fewer time to study compared to male students as a result of house chores. As a result, they were less conscious about time management, memory techniques, reading systems and concentration. This lack of well acquainted background influences their study skills in higher institutions and they become low achievers measured by cumulative grade point average. Similarly, Udom indicated that males and females do not have equal time duration for studying. The spare time females have in daytime is quite different as compared to males. Females are expected to help their mothers in the house in preparing food, caring for children and washing clothes in which the males are not expected to do (as cited in Kifle, 2006:36).

Poole (2005) in his literature review contended that some studies show minimal differences between males and females or even higher reading strategy use for males. He also put that, most current literature in this area; however shows that females tend to be more active reading strategy users than their male counter parts (as cited in Wubetie, 2007:33).

According to Wubetie Zewdu (2007) female students in Addis Ababa University face difficulty to concentrate on their study either in library or in their dormitories. In library male students distract their attention by sending a piece of written material, or by talking to them or by insulting them. In dormitories most of female students like to talk about social affairs rather than studying academic

subjects. Moreover, female students in most dormitories celebrate public holidays, special occasions like welcome and good bye programs which negatively affect their study time. Her study further indicated that most female students had no knowledge about reading systems like SQ3R, 3R, or Question –in-the-Margin Study approaches. Regarding memory skills, Wubetie (2007:26) reported that most female students use rewriting the whole idea technique than application of mnemonic techniques like catchword, catchphrase and main word approaches. As to her conclusion, female students attain lower cumulative grade point average because they apply ineffective study skills.

2.3.2. Institution Related Factors

The facilities and services in higher institutions, the quality, experience, attitude, sex compositions and commitment of instructors and the supportive and facilitative role of the administrative staff can have a considerable effect on the academic success of students in general and female students in particular. Cottrell (2001:40) pointed out that the traditional model placed the deficit with in the student; in today's teaching climate; it is important to identify not only "at risk" students but also' at risk' environment.

2.3.2.1. Facilities and Services in the Institution

Poor supply of facilities and services affect the academic performance and hence, it affects the academic success of students. Regarding this, Fuller pointed out that material inputs and services like textbooks, reference materials, teaching materials, library services, water supply, latrines, cafeteria services, dormitory facilities, light and like may have significantly affect pupils performance and progress(as cited in Adane, 1993:71).

Salili (1996:60) put the school environment as an important factor influencing learning and achievement motivation of the students. He also reported that there is a positive relationship between underachievement and poor school conditions.

Regarding the responsibility of the higher institutions in supplying the facilities and services, Robertson (1968:60) contended that the general purpose of the university is the transmission and advancement of learning and the human learning process is subjected to its own physiological law.

Therefore, the university is obliged to arrange all aspects of its administrative structure and programming in conformity with the demands of the learning process. The university is obliged to provide a vital academic atmosphere in which students can develop capacity for critical understanding.

2.3.2.2. Guidance and Counseling

Educational counseling is a process that may be applied in crisis situations, or situations that students perceive as crises. These may include the need for emergency "repair" work on defective study skills, help with conflict or bullying in groups, help for students who lose confidence, or have to deal with emotional events that interfere with learning (Ashcroft, Peck, and Lopraine, 1994:125).

Educational counseling is used to tackle a number of common problems, such as the student with a worrying study skill problem, the student who is conforming to peer pressures at the expense of their work or the student who has to make difficult choice and needs help to sort-out the options. Counseling as a mode of interaction can be useful to help a student overcome a deep-seated problem in their study or to help them overcome lack of responsibility, open-mindedness or empathy with others. Counseling within the learning process should be primarily directed at helping the student learn to become more self- sufficient and helping them to deal with ongoing situation. It is a powerful tool if employed skillfully and sensitively in making the student think for themselves and rise to the emotional and cognitive challenge of further or higher education (Ashcroft, et al., 1994:127)

2.3.2.4. Instructors' Related

As being one of the central role players in the teaching learning process of any educational program instructors may enhance or degrade the academic success of students. Instructors' attitude toward students, their concern for the students, the preparation for and presentation in the classrooms, their way of assessing students subject matter knowledge, the way they provide feedback and the like has considerable effect on the success or failure of students.

2.3.2.4.1. Instructors' Attitude toward Female Students

The attitude and expectation of instructors toward female students is one of the factors that affect female students' academic success. Regarding this, Swilla (1992:64) found that some teachers claim that girls are less intelligent and work less than boys. The effects of such beliefs are extremely insidious. Teachers who believe girls are not intelligent may be content to do as little as possible when teaching female students. In addition, such teachers may transfer some of their prejudices to the students of both sexes as well as to other teachers. Similarly, Odanga and Henveld revealed that both male and female instructors believe that boys are academically better than girls (as cited in Desalegn, 2006:42).

Kahle, Parker, Rennie and Riley (1993:379) showed that there is a gender effect associated with the expectations of teachers toward girls and boys in science, the types of interaction that occur between teachers and students and among students in science classrooms, and the kind of evaluations that assess what kind and how much science has been learned by girls and boys. The gender effect is manifested when expectations, interactions, or measured achievements (example, grades) are related to a students' sex rather than based upon her/ his potential because of that relationship, the gender effect influences girls attitude toward science, their self-confidence in performing scientific tasks, their achievement level in science, and their motivation to continue to study science.

Kahle, et al. (1993:387) reported that the U.S. sample teachers perceived boys to be more confident and more interested than girls in all branches of science. Another research conducted by Eccles and Wigfield indicated that teachers typically pay less attention, provide less detailed feedback, and require less work from students who are presumed to be low achievers (as cited in Flanagan, 1993:364). Therefore, if the instructors' attitude to female students is somewhat lower than they give to male students, they give little attention to their performance and minimize the effort they are expected to exert on improving the situation. In addition to this, the situation may also force female students to give less attention to their learning because their latency, effort and academic potential is not valued by their instructors as that of their male counter parts.

2.3.2.4.2. Instructors' Classroom Interaction and Instruction

Lecturers can have an impact on their students learning by the way that they manage the learning environment. "What we do as lecturers, the type of assessment we set, the timing of assignments, the way we mark and offer feedback, the way we present information, the way we address students, the way we orient students in to learning, the way we design our courses." All this and more can harness the natural propensity of our students to learn. Conversely, we can further entrench our students' previously acquired inhibitions. We can even establish inhibition to learning in those who have always been successful before they reached us (Cottrell, 2001:23).

2.3.2.4.2.1. Classroom Interaction

The chances the instructors give for students to ask and answer questions, the way the teachers treat students in classrooms also affect students' motivation and by that it determines the academic success of students. Regarding this, Bailey (1993:322) put that the amount and kind of attention students receive from teachers has long been a topic of interest to researchers. Studies conducted in all areas of educational programs- preschool, elementary, secondary and tertiary levels indicated that the pattern of interaction between instructors and students favor male students in the classroom setting. According to Jones and Whitely; Mores and Handley, reported that the imbalances in the amount of teachers attention boys and girls receive are particularly marked in science classes. Similarly, Baker found that teachers in science lecture classes questioned boys on the subject matter more often than they did the girls. Another study found that 79% of classroom science demonstrations were conducted by boys. This trend drastically affects the academic performance of female students and leads them to fail (cited in Bailey, 1993:323).

2.3.2.4.2.2. Instruction and Characteristics of 'Good' Instructor

Quality instruction is a process that requires certain 'good characteristics' from the side of instructors. Concerning this, Goodwin and Stevens (1993:66) observed that certain characteristics of 'good' instructors enhancing students' success. As they contended, some generally accepted characteristics of 'good' teachers include enthusiasm, knowledge of the subject area, stimulation of interest in the subject area, organization, clarity, concern and caring for students, use of higher cognitive levels in

discussions and examinations, use of visual aids, encouragement of active learning and student discussion, provision of feedback, and avoidance of harsh criticism.

Teaching is a profession calls for various areas of competency. To Ashcroft, et al. (1994:7) the competency of most relevance is the ability to use a wide and appropriate range of teaching and learning methods effectively and efficiently; to work with large groups, small groups and one to one. Thus, 'competency' is more complex than it appears at first sight. It includes the ability to make presentations for example, lectures, demonstrations; facilitate group learning for example, through seminars, discussion groups, projects; work with individual learners; facilitate practical or laboratory classes; contribute to team teaching; and use the appropriate technology for the teaching learning method, for example, overhead projectors, handouts or information technology (Ashcroft, et al., 1994:67). Similarly, they contend that mere competency is not enough even though it is necessary, it becomes complete where there is effective teaching. To them effective teaching implies that learning has to take place, not just learning anything but learning of a content or process predetermined by the tutor. Effective teaching is characterized by, first, stating and communicating the aims or objectives of that specific activity and this requires a very good grasp of the nature of the discipline, a good grasp of the level of understanding of your students and an understanding of the most appropriate teaching methods taking into account both factors. Second, effective teaching necessitates finding out about learners through some investigative work. Knowing the level of learners, their attitude, expectation, ability, and the like will facilitate effective teaching and learning. Third, knowing the subject or discipline, in the sense of understanding its key concepts, modes of reasoning and its uncertainties, is necessary in order to know what learning it includes. This requires conceptual investigation. Finally, effective teaching requires the instructor to know and utilize the appropriate method of teaching, utilization of a variety type of instructional materials, and knowledge about ends (Ashcroft, et al., 1994:68).

2.3.2.4.2.3. Availability of Role Models

The availability of female instructors in the institution of higher education may enhance the academic success of female students. One of the aspects that female instructors benefit female students is through their classroom instruction. Regarding this, Berry reported that female professors tended to generate more class discussion, more interactions, and more give- and - take than male professors

(cited in Goodwin and Steven, 1993:169). Similarly, in a review article (Goodwin and Steven, 1993:169) contended that at college level, investigators consistently report more interaction in classes taught by women, with more student input, more teacher and student questions, and more feedbacks. Therefore, if the female students get more chance to participate in the classroom setting it will improve their academic success. From another angle, female students can easily communicate personal and subjective problems with female instructors than male instructors. Lack of female instructors may negatively affect the academic success of female students.

2.3.3. Socioeconomic Factors

Students' academic success is also affected by direct or indirect parental support the students get from their parents or guardians. Substantiating this, King and Hill (1993:111) contended that the socioeconomic background of parents, their attitudes about educating girls and the mother's education contribute to shaping decisions about schooling daughters. A family's need for child labor may add a high opportunity cost to any other reasons for not sending daughters to school. Even if the King's and Hill's reasoning concerned with access to education, the aforementioned variables exert profound effect on the academic success of female students.

2.3.3.1. Parents' Educational Level

As socioeconomic variable, the educational level of parents is assumed to have a significant effect on pupil's success or failure in schools. Regarding this, Stevenson and Parker viewed the level of parental education as an important predictor of pupil's performance than other variables related to family background (as cited in Adane, 1993:57). The basic assumption related to the educational level of parents as proposed by Brimer and Pauli is, well educate parents involve more in school affairs and encourage their children better than the less educated parents as cited in Admasu, 2004:31).

2.3.3.3. Parents' Income Status

In higher institutions students need money for photocopies, beverages, cosmetics and learning materials, if parents are unable to cover such necessary expenses it adversely affect female students' academic success. Hedija (2002:15) reported that financial support for female students' in higher education as crucial factor governing the academic performance of female students. Female students

extending the guidance and counseling service, extending the tutorial programs, and provision of various types of training; provision of facilities and services like health, water, library services which can avoid interference of male students, sufficient street lights, and promotion of gender office status; employment of matured, educated and motherly proctors; and improvement on safety mechanisms in the university were part of their proposal to improve female students' academic achievement.

Finally, in the current policy document of Ethiopia, especial attention is given to the female students. According to MoE (2005), 13 strategies were designed to improve the problem of women education in general and girls' education at primary, secondary and tertiary level in particular. From these some of strategies relevant to female students at tertiary level include: Tutorial services will be strengthened and advice will be given to female students to help them decide their field of study in TVET and HEIs; and Special supports that are being provided for female students in the HEIs will be strengthened. HE officials will monitor such support.

Similarly, The World Bank African Region Human Development proposed strategy with six steps out of which four are relevant to if one desires success on females learning. These are:

> ***Step 1:*** *Looking at the Benefits: Clearly understand the importance of female education and the success in all programs of education in general and in higher education programs in particular;*
>
> ***Step 2:*** *Identifying Problems in a Country or Region or Institution: most of the problems of female students face are vary from one area to another or from one institution to the other. Therefore, at the second step the problem specific to the study area must be identified;*
>
> ***Step 3:*** *Identifying Causes: Not only the problems but also the causes vary from place to place and even time to time. Thus the factors that cause the problems should be identified; and*
>
> ***Step 4:*** *Identifying and Assessing Interventions: Designing the appropriate remedy that suits to that specific context.*

To summarize the section on strategies for female students' academic success in Higher Education Institutions (HEIs), several strategy options ranging from specific female students' related to general society related topics were suggested. The strategies suggested and employed in Jimma University were detailed and practical in improving female students' academic success whereas those proposed by the World Bank African Human Development Group was a more general one that anybody who wanted to assess the problem of female students to suggest a possible solution could refer and follow the steps.

CHAPTER THREE

3. Research Methodology

In this chapter issues related to the methodology of the study such as research design, sample and sampling procedures, tools of data collection, reliability and validity of the instruments of data collection, variables involved in the study, and the statistical procedures employed were discussed in detail.

3.1. Research Design

Relational study design was employed to conduct this study. This was because first, the design allowed the researcher to group the variables as outcome (dependent) and explanatory (independent) in order to measure relationship between variables. According to Robson (2002:155) relational design measures the relationship between two or more variables. Second, the relational study design necessitated the formulation of the research questions prior to data collection, prior identification of variables studied, decisions about methods of data collection, and analyses, the sampling strategy, and the samples or determination of who would be asked, were all finalized before proper starts of data collection and these decisions had been kept throughout the study. Third, the relational design allowed the researcher to use variety of statistical methods, like t-test, correlation, regression and cross tabular analyses. Finally, the design was chosen because the design allowed the researcher to include more explanatory variables.

3.2. Sample and Sampling Procedure

3.2.1. Sampling Technique

Purposive sampling technique employed to identify the university and the departments within the faculties. AMU was selected as results of very low graduation rate of female students compared to those female students enrolled. The five faculties were selected based on their availability of

information for the study. From the seven faculties in AMU, Agriculture and Health launched their program in 2007/8. Thus, in these two faculties it was impossible to get aggregated data for at least three years. The selection of the departments from the five faculties was carried out by two steps. First, 50% of the departments in a faculty considered to be sufficient to address the situation in the whole faculty. Second, attrition rate for female students for three years from 2005/6 to 2007/8 for both first and second semesters were collected. Those departments lack data on attrition rate for at least three semesters or more were automatically discarded from the selection. For the remaining departments the average attrition rate for female students was calculated and the departments were ranked based on their average attrition rate assigning 1 for the department with the largest average attrition rate. And then, the departments with high average attrition rates were selected for the purpose of the study. Finally, departments in which pilot-test was conducted were selected from the remaining departments (for more information you may refer to Appendix 'C').

Stratified and simple random sampling methods were employed to select female students from various faculties, fields of studies (departments), and year levels. Stratified sampling technique employed to select proportional sample female students from their total number in the faculties, departments, and year level using the table of random numbers developed by Rohlf and Sokal (as cited in Kumar, 1999: 156). The population of the study was 452 female students learning in the five faculties and thirteen departments selected for the purpose of this study. The list of 452 female students was the sampling frame for the study. Female students were selected by; first, the list of all female students registered in the selected faculties and departments in Arba Minch University in the year 2009/10 was taken from the office of the University Registrar by faculty, department, and year level. Then, the list was alphabetized by using their first name for each year level and department. Then two numbers assigned to each of female students listed in the sampling frame. The first numbering system began with the first number for every year level and department whereas the second numbering system was given consecutively beginning from the first female student on the sampling frame up to 452. The selection of the samples from the sampling frame was based on the numbers assigned from 1 up to 452 consecutively. The table of random numbers consulted for each sub-category independently beginning from the 10th column and 50th raw moving upward until the column ended and then turn downward with the column immediately on the left and repeated until all the columns and rows completed or the required sample size selected. The number occurred on the table of random numbers for each sub category was taken and the female student who corresponded to the selected number was immediately

included in the sample. In some sub-categories, the statistical table was unable to identify the adequate number samples required for that sub-category. In such conditions, simple random sampling technique employed. The lottery method was used to identify sample female students in case the table of random numbers was unable to identify all the required sample female students for a sub category.

3.2.2. Sample Size

The sample size for this study was determined by the method of study employed. Many researchers, for example, Mertens (as cited in Robson 2002:161) suggested as the 'rule of thumb' about fifteen participants per variable in non experimental relational designs. On the other hand, Kumar (1999, 86) proposed 20 to 30 individuals per variable for such studies. Therefore, 20 individuals per variable were preferred because the number might balance the two proposals. Thus multiplying the number of individuals involved per variable by the number of variables included, the total sample size for female students was determined. There were nine explanatory variables considered in this study. The sample size for female students was, 20 x 9 = 180. In addition to this, 60 instructors, 5 faculty heads and 13 department heads were included in order to substantiate the responses provided by female students. Thus, the total sample size for this study was 258 individuals (for more information you may refer Appendix 'D').

Proportional samples from each faculty, department and year level were selected by employing three formulas:

To select sample from Faculties: *(Number of Female Students in that Faculty × Total Sample Size) ÷ Number of Female Students in all identified Faculties*

To select Sample from Department: *(Number of Female Students in that Department × Sample Size for the Faculty) ÷ Number of Female Students in that Faculty*

To select Sample from Year Level: *(Number of Female Students in a given Year Level × Sample Size for the Department) ÷ Number of Female Students in that Department*

3.3. Tools of Data Collection

Questionnaires and document analysis were the two types of data collecting tools employed in this study. Questionnaire was preferred to address 180 female students effectively, and the questionnaires allowed the inclusion of more items and gave sufficient time for female students to think and react before responding to the items. The document analysis preferred because the information on enrollment, dismissal, withdrawal, attrition rates, cumulative grade point average and graduation were compiled in various documents of the University.

3.3.1. Questionnaires

Two types of questionnaires were employed to collect the desired data for this study from two groups of respondents- female students and academic staff respondents. These were questionnaires developed by student researcher and utilization of questionnaires developed and utilized by other researchers for the same or similar purpose.

3.3.1.1. Student Researcher Constructed Questionnaires

A Five-Point Likert type with 62 items was constructed to gather information on the services and facilities in Arba Minch University. The instrument was adapted from a questionnaire developed by Befekadu Zeleke and distributed in Addis Ababa University in order to assess the facilities and services in Addis Ababa University in 2008. In addition to this, the draft items were given to five senior postgraduate students from the department of Educational Planning and Management in order to avoid unnecessary items or to add additional ideas which were excluded unintentionally. The researchers' idea was to select those items with 60% and more agreement by the judges and to include forgotten items suggested by at least three of the judges to the questionnaire, however, all the items got more than 60% of the agreement of the judges and no additional area of consideration was suggested by any of these judges. As a result, the instrument was used as it was adapted. Second, five-scale Likert type questionnaire with total of 14 items out of which six were negatively stated was designed to get insight of instructors' attitude toward female students as rated by female students

themselves. The same procedure was followed. However, from the 14 items given to the judges only 12 items got 60% and more agreement by judges. As a result of this, the 12 items were selected as refined item to collect the data on instructors' attitude toward female students (For more information consult Appendix 'I').

3.3.1.2. Utilization of Already Existing Questionnaires

Some standardized tools of data collection like Female Students' Academic Self-Concept Inventory, Academic Achievement Motivation Scale, Study Skills Inventory, Classroom Instruction Inventory, and Socioeconomic Status Scale were employed with little or no modification.

3.3.1.2.1. Academic Self-Concept Inventory

Five-Point Likert academic self-concept inventory with twenty items adapted from two sources by the student researcher. The first ten items were modified from Rosenberg (1965) Global Self-Concept Inventory by applying the hierarchical approach proposed by Schavelson, Hubner, and Stanton (as cited in Pajares & Miller, 1994: 194). And the second ten items were modified from Tadesse (2006). From the 20 items, ten were negatively stated. The minimum score for the inventory was 20 and the highest score was 100. The larger the score would be the higher the self-concept.

3.3.1.2.2. Academic Achievement Motivation Scale

This scale was utilized as it had been employed by many researchers like Mustofa (2006), and Kifle (2004). There were 22 items in the scale. The minimum score for the scale is 22 and the maximum score is 110. The higher the score would be the greater in academic achievement motivation.

3.3.1.2.3. Study Skills Inventory

The study skills inventory was collected from three sources Marton and Salijo (1996); Landsberger (n.d.); and Chavez (n.d.). From the three sources similar ideas were identified and included as part of this study skills inventory. The inventory was five scales Likert type extended from "Almost Never" to "Almost Always". The study skills inventory was categorized into six sub-scales. These were

Reading or Studying Strategy Sub-Scale with 14 items out of which seven items were negatively stated; Time Management Sub-Scale with 14 items six of the items were negatively stated; Listening and Note-Taking Sub-Scale with 13 items from which seven were negatively stated; Memory Sub- Scale with 13 items out of which three were negatively stated; Concentration Sub-Scale with 16 items seven were negatively stated; and Test Preparation and Test Taking Sub-Scale with 18 items from which eight were negatively stated. In general, Study Skills Inventory had 88 items out of these 39 items were negatively stated. The minimum score was 88 and the maximum score was 440. According to the scale higher the score better the study skills employer. Student Related Factor (SRF) was calculated by adding the students score in Academic Self-Concept Inventory (ASCI), Academic Achievement Motivation Scale (AAMS) and Study Skills Inventory (SSI). Thus, SRF= ASCI + AAMS + SSI. This gave minimum score of 130 and maximum score of 650. The higher the score the better in student related factors.

3.3.1.2.4. Instructors' Instruction Inventory

The inventory was developed and utilized by Goodwin and Stevens (1993). 14 positively stated items were directly taken from Goodwin and Stevens and the rest eight items out of which five were negatively stated were taken from Ashcroft, Peck, and Lorraine (1994). Instructors' Instruction Inventory had total of 22 items and out of these five were negatively stated. The minimum score was 22 and the maximum was 110. Institution Related Factors were the additive value of facilities and services and instructors' related factors.

3.3.2.5. Socioeconomic Questionnaire

The questionnaire was adapted from Efrem (1999). According to Rosenberg; and Kapla and Coopersmith, the socioeconomic status of an individual is based largely on education, occupation, income and residence (as cited in Efrem, 1999: 31).Therefore, in this study parents socioeconomic status was measured using five indices consisting of ten items. These indices were Educational Index (EDI), House Index (HOI), Earning Index (EAI), and Prestige rating of Occupation (OCP) and Major Properties Index (MPI). Despite such attempt to measure the socioeconomic status of the parents of the students, 98% of the respondents were unable to provide information for the two indices- occupation and major properties. Thus, the socioeconomic status was assessed using

Educational Index with two questions, Income Index with two questions and House Index with three items. It was believed that the other two indices were indirectly measured through the other three indices.

3.3.2. Questionnaire for Respondents

The questionnaires were distributed for two groups of respondents- female student and academic staff respondents.

3.3.2.1. Female Students' Questionnaire

A questionnaire with 239 close ended items and one open-ended item totally 240 items distributed for 210 female students with 30 students as contingency. The questionnaire arranged under four themes. The first part of the questionnaire (six items) designed to get general information of the respondents. The second and the widest part of the questionnaire with 130 items was designed to collect data on student related factors like the study skills of the respondents, their academic self-concept in light of their field of study and the academic achievement motivation of female students. The 88 items under study skills inventory were further grouped into six areas study (reading) strategy, time management, listening and note-taking, memory techniques, concentration and test taking. The third part of the questionnaire was developed in order to get insights on the provision of facilities and services- like classrooms, student's cafeteria, dormitory, clinic, library, laboratory, and guidance and counseling services and instructors related areas like instructors attitude toward female students and their classroom behavior in light of female students. The last section of the student questionnaire contained seven items related to educational, income and house conditions of the parents of the students. From 210 student questionnaires distributed, 189 (90%) was returned. From 189 questionnaires returned seven were half filled and two missed background information thus these were discarded from consideration. Hence, 180 questionnaires left which was the student sample designed at the beginning of the study.

3.3.2.2. Academic Staff Questionnaire

A questionnaire with 14 items constructed to obtain information from the academic staff members in AMU. The purpose of the questionnaire was to supplement the explanations and conclusion drawn from the student responses. The questionnaire was arranged in four sections. The first part was designed to get general information about academic staff respondents; then three items were developed to assess how instructors or academic staff members rate the position of female students in the courses they were giving. The third theme of the academic staff questionnaire was designed to assess on one hand the academic staff position in suggesting the causes of the problem of female students academic success and on the other hand to assess whether the instructors believe that some of the causes were associated with the instructors themselves or not. Finally, the academic staff questionnaire attempted to identify possible solution in general and the responsibilities expected from the academic staff (instructors, department heads, and faculty heads) in order to solve the low academic success problem of female students in AMU in particular. Out of 78 questionnaires distributed and handed personally for each academic staff member, only 36 (46.15%) academic staff members filled and returned the questionnaires within a month and 12 days. Therefore, the analysis was based on these 36 questionnaires.

3.3.3. Document Analysis

Documents were analyzed to get information on the academic processes like enrollment, withdrawal, dismissals, registration on Dean's List, and graduation in AMU. In addition, information on the number of female students by faculty, department and year level; instructors by sex, faculty, department, academic rank and experience; and faculty and department heads by sex, experience, qualification and academic rank were obtained from secondary sources by employing document analysis technique.

3.4. Data Source

The data for this study was collected from both primary and secondary sources. Female students and instructors were primary sources and the annual report papers and other documents from the registrar

office of the university were secondary sources. Thus the data obtained directly from female students and academic staff respondents was primary data and that obtained through document analysis was secondary data.

3.5. Pilot-Test

Before the utilization of the instruments (the questionnaires) at large-scale, the questionnaires were distributed for 80 female students in the departments of Economics, Applied English, Meteorology, Environmental and Water Engineering, Computer Science and IT, Mechanical Engineering, Applied Chemistry, Business Education and Civic and Ethical Education. From those 80 questionnaires 76 were returned. Therefore, the pilot test statistics was based on these 76 cases. The pilot test phase informed the researcher to consider a number of practical problems at the time of full-scale administration. First, the pilot test period informed the researcher to distribute the questionnaires via the departments and instructors otherwise it was very difficult to disseminate as well as to collect the questionnaires. Second, the pilot-test period informed the researcher to distribute extra questionnaires because some of the female students were unable to respond on time, others fill some items and left blank some items. Third, before the pilot-test phase the researcher was wrongly assigned three weeks to collect the questionnaire from the female students but the pilot-test informed that additional weeks were needed to complete the questionnaires.

3.6. Reliability of the Instruments

The reliability of the instruments of data collection was checked before the full-scale implementation of these tools for the purpose of this study. According to the statistics derived from the pilot-test:

Study Skills Inventory had Cronbach's alpha .859 which was higher than the reliability coefficient obtained by Kifle (2004) using Split-Half and KR-20 methods .73 and .78 respectively;

Academic Achievement Motivation Scale had Cronbach's alpha .684 which was slightly lower than the reliability coefficient obtained by Kifle (2004) using Split-Half method .75;

Self-Concept Inventory had Cronbach's alpha .741;

Facilities and Services Questionnaire had Cronbach's alpha .899; and

Instructor's Related Questionnaire had Cronbach's alpha .889 (for more information you may consult Appendix 'E').

3.7. Variables Involved in the Study

Two groups of variables were considered- explanatory variables and outcome variable. The selection of explanatory variables was based on theoretical as well as practical consideration. From practical consideration, most of the explanatory variables in this study were identified from the information gained from the communities in AMU at the problem identification phase. From theoretical consideration, various studies in the same area and books were consulted to get the detailed understanding about the characteristics of each variable. Poor background of female students was one of the frequently mentioned causes for low academic success of female students by the majority of the students, lecturers and administrative staff members of the university community. But from the theoretical and logical consideration, the variable was excluded from further involvement. The World Bank (1995:3) put that in less developed country's female education is characterized by low investment at family level, the allocation of resources for female students is low compared to males; and the time allowed for female students for academic tasks at lower level is very scant compared to the time available for males for the same task. Therefore, previous achievements were not be indicator of female students academic performance- the true academic potential of female students is higher than their achievement on previous grade levels. Having such considerations in mind, nine explanatory variables and an outcome variable selected for this study. The outcome variable was female students cumulative grade point average and explanatory variables were study skills, academic self-concept, academic achievement motivation, facilities and services, instructors' attitude toward female students, instructors' classroom behavior, educational background of the parents, income status of parents and the house condition of the parents. At the time of analysis the two instructors' attitude and instructors' classroom behavior were combined under instructors' related factors and the house condition of the parents was excluded from the analysis as a result that the variable was unable to pass the criteria for regression analysis. Therefore, the refined explanatory variables were seven in number.

3.8. Statistical Procedures Employed in this Study

Certain statistical techniques were employed in this study. Counts and percentages were employed in order to present the academic success gap between female and male students in AMU. Pie charts and bar graphs were used to depict the background information of female respondents. Line graphs were employed to compare the difference between male and female students along several instances. Independent Sample T-Test conducted to identify if there was statistically significance difference between female students having GPA below 2.00 and those having 2.00 and above in their mean score for the explanatory variables. Cross tabulations were used to display the comparison between variables and within sex differences in some of the items. Multiple and step-wise regression techniques were employed to assess the variable's relative and combined effect on the outcome variable GPA. All the statistical outputs were conducted by using SPSS (Statistical Package for Social Science) version 15.0. Thus, for t-tests statistics and for all regression analyses the probability was set at 0.05 levels. In addition, Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100 for all step-wise analyses attempted in this study. Before using regression analysis either multiple or step-wise, test for multicollinearty was conducted. Finally, the factors and variables involved in this study were evaluated from five points of comparison in order to identify the relative effect of each factor or variable on female students' academic success. The values for the five points of comparison obtained from regretting each variable and each factor by holding the influence of other variables constant. Then the value obtained from each model for the five points of comparison added together to identify the factor with the most significant effect on female students' academic success in AMU. These five points of comparison were the t-statistics, sum of squares for regression output, the coefficient of determination, the F change and the significance level for T and F statistics.

CHAPTER FOUR

4. Data Presentation, Analysis, and Discussion

In this chapter data were presented and analyzed using statistical techniques and procedures and followed by discussions. The first part of the chapter dealt with the general background of the respondents and their association with other variables involved in the study if any. The second session was devoted to indicate the extent of the academic success gap between male and female students in Ariba Minch University. The effect of student, institution and socioeconomic factors on female students' academic success was assessed in the third part of this chapter. Finally, the proposed solutions to tackle the academic success problem of female students in AMU were succinctly presented.

4.1. General Information of the Respondents and their Association to other Variables

In this section the background variables like age, department, faculty, year level and year of enrollment of female student respondents displayed using pie or bar charts and their association with other variables involved in the study were assessed. Secondly, general information of academic staff respondents was presented in brief.

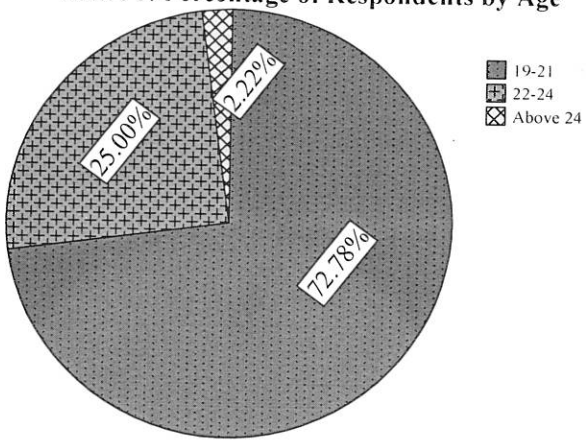
4.1.1. Female Student Respondents

Five background variables were presented in this section. These were respondents' age, faculty from which the respondents selected, and department category of the respondents, year level of the respondents and the year of enrollment of the respondents. Some of the variables showed statistically significant correlation with variables used in this study.

4.1.1.1. Age Category of the Respondents

The following pie chart displayed the age category of respondents.

Chart 1: Percentage of Respondents by Age

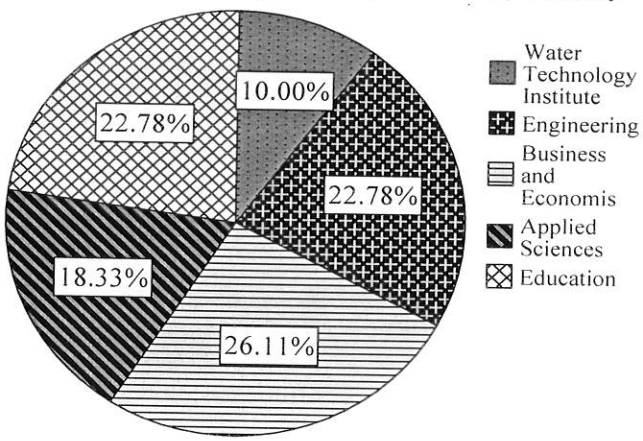


As can be seen from Pie Chart 1, three fourth of the student respondents were between 19 and 21 years of age and few were above 24 years of age. The age of the respondents was found to be significantly correlated with three variables involved in this study. Age significantly correlated with study skills at the 0.05 level (2- tailed) but the coefficient of correlation was 0.159. Similarly, age and academic self-concept showed statistically significant correlation at the 0.01 level (2-tailed). The correlation was positive and weak (0.23) but stronger than the correlation result for study skills. Thirdly, age found to be positively correlated with academic achievement motivation (0.192) at the 0.01 level (2-tailed). The positive correlation shows that those female students with higher GPA marked larger age categories, and scored higher in both academic self-concept inventory and academic achievement motivation scale. The weak correlation coefficient indicated that the association between age of the respondents and the study skills, academic self-concept, and academic achievement motivation was not strong. The finding was supported by an earlier work done by Walkins. Regarding the correlation between age and study skills, Walkins (1985) reported that, age and study methods were significantly correlated. By incorporating the earlier findings with his investigation result, Walkins concluded that the younger students most likely to be utilizing inappropriate study methods and, probably in consequence, performing less ably in their examinations than older students(p. 89). In general, the result reflects that majority of female students in AMU belong to younger age category as a result they might apply less suitable study techniques, might have poorer self-concept and lower academic achievement motivation. Thus, age might be one of the variables contributing for low academic success of female students in AMU.

4.1.1.2. Faculty Category of the Respondents

The respondents were selected from five faculties.

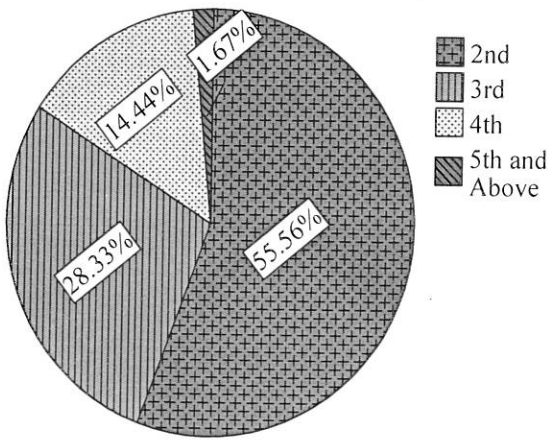
Chart 2: Percentage of Respondents by Faculty



As displayed on Chart 2, the majority of respondents were from Business and Economics followed by Engineering and Education. The faculty category of the respondents did not show statistically significant correlation with any one of the variables involved in this study. This showed that academic success problems were not faculty selective- the problems existed in five of the faculties in AMU.

4.1.1.3. Year Level of the Respondents

Chart 3: Percentage of the Respondents by Year Level

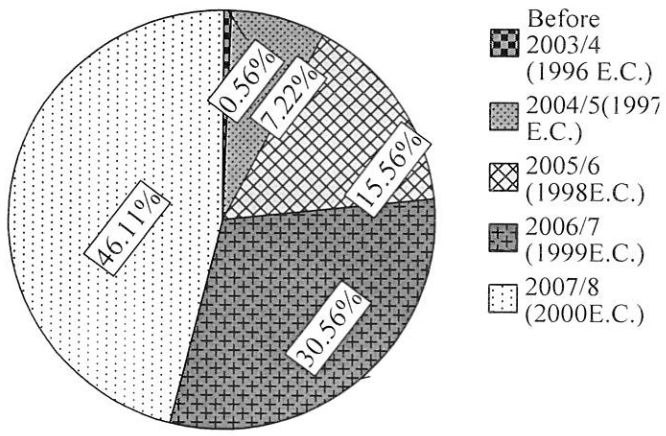


As it is displayed on Chart 3, slightly more than half of the respondents were second year students, followed by third year, fourth year and fifth year students. There was statistically significant, positive but weak (0.159) relationship obtained between year level of the respondents and cumulative grade

point average at the 0.05 level (2-tailed) of significance. Year level of the respondents showed positive significant correlation with many variables. For instance, with study skills (0.218) at the 0.01 level (2-tailed); academic self-concept (0.210) at the 0.01 level (2-tailed); reading (study) strategy (0.207) at the 0.01 level (2-tailed); listening and note-taking (0.27) at the 0.01 level (2-tailed); concentration (0.27) at the 0.01 level (2-tailed); memory techniques (0.148) at the 0.05 level (2-tailed); preparation for and taking tests (0.168) at the 0.05 level (2-tailed); and socioeconomic status (0.147) at the 0.05 level (2-tailed). This shows that seniority was associated with increased utilization of study skills; improved academic self-concept; application of a variety of reading strategies; use of improved listening and note-taking techniques; and so on for the variables shown statistically significant and positive correlation with year level of the respondents. In addition, the result showed female students from better socioeconomic background continued to succeed in the campus than those from lower socioeconomic background. The implication is that more female students were affected by the academic success problem in AMU because the number of female students in the lower year levels outnumbers those students at fourth and fifth year level. The possible causes for this include low academic self-concept, low academic achievement motivation and application of inappropriate study techniques among female students in the lower year levels. And lack of support from the instructors and other responsible bodies in the university.

4.1.1.4. Respondents by Year of Enrollment

Chart 4: Percentage of the Respondents by Year of Enrollment



As can be seen from chart 4, the percentage of respondents was larger for recent years. This indicates that either through these years most female students left the campus or the rate of enrollment was lower in previous years. No variable showed statistically significant correlation with year of enrollment of the respondents.

4.1.1.5. Respondents by Department Category

Chart 5: Percentage of Respondents by Department

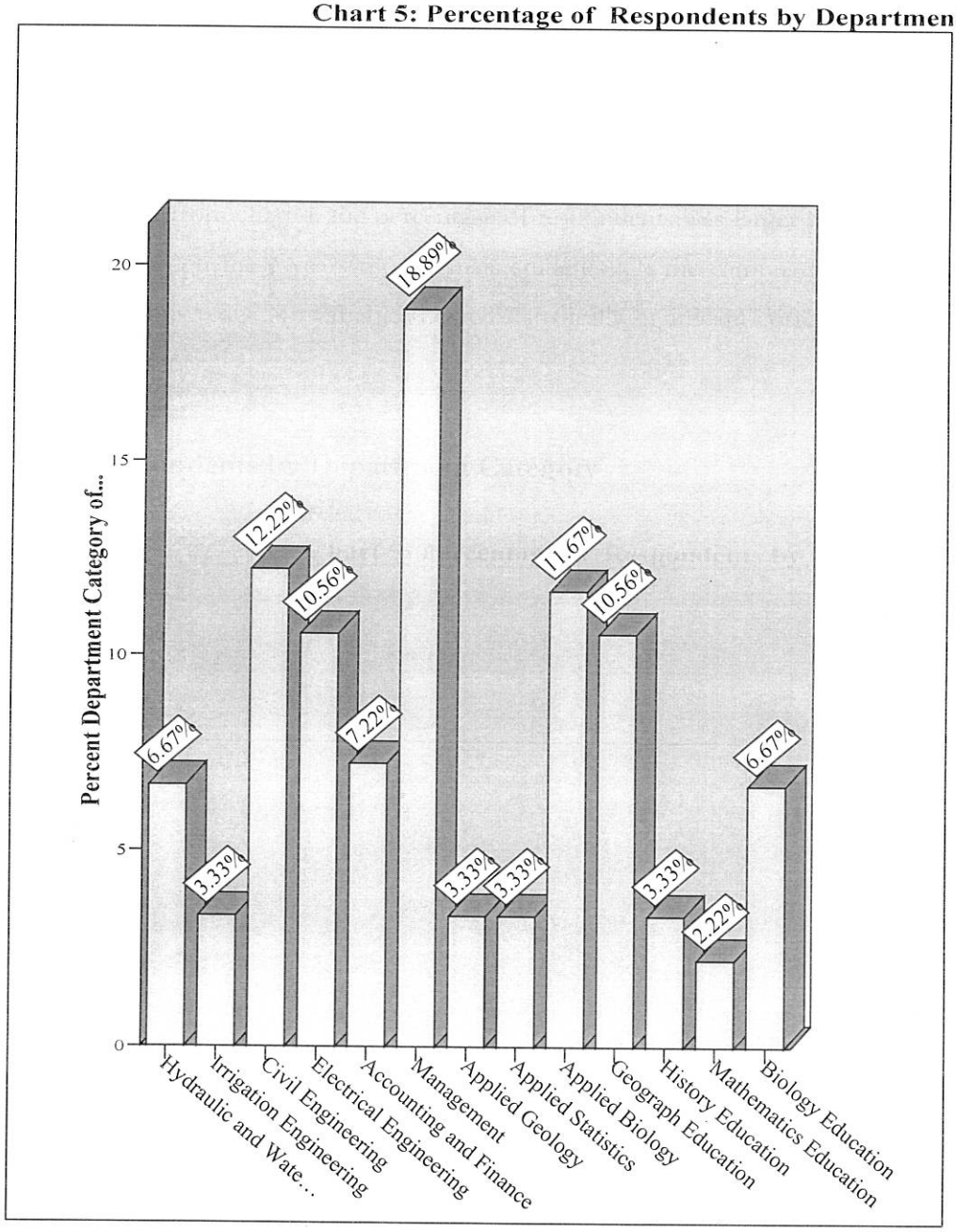


Chart 5 shows the percentage of female student respondents by department. As it is depicted females were joining all fields of studies even if their percentage share was small. The percentage was higher for the department of Management, followed by Civil Engineering and then by Applied Biology and Electrical Engineering. The lowest percentage observed in the department of Mathematics and followed by Irrigation Engineering, Applied Geology, Applied Statistics and History departments. The department category of the respondents showed no statistically significant correlation with other variables involved in this study. This shows that, being a member of a given department did not aggravate or improve the problem of female students' academic success in AMU. Academic success problem was not department selective.

4.1.2. Academic Staff Respondents

From 36 academic staff respondents returned the questionnaires 35 (97.2%) were male and 1(2.8%) was female. This showed that the number of role model female instructors in AMU was very small. This was also in line with Chombe's (2005:45) report that from instructors in AMU 96.8% were male and the remaining 3.2% were female. The importance of female instructors for female students' academic success was unquestionable. Because female instructors may approach female students' problem from at least two directions, first, through their interactive method of instruction they could arose the interest of female students to put effort on their learning and second, as being female and passed through the life in the campus as students, female instructors may provide personal advice for female students in AMU. In line with this, Berry reported that female professors tended to generate more class discussion, more interactions, and more give- and - take than male professors (cited in Goodwin and Steven, 1993:169). Similarly, at college level, investigators consistently report more interaction in classes taught by women, with more student input, more teacher and student questions, and more feedbacks. If the female students in AMU taught by more female instructors and get more chance to participate in the classroom setting it might improved their academic success. From another angle, female students can easily communicate personal and subjective problems with female instructors than the male instructors. Lack of female instructors may negatively affect the academic success of female students (Goodwin and Steven, 1993: 169). Therefore, lack of role model female instructors was one of the factors aggravated the low academic success problem of female students in AMU.

Regarding the age of the academic staff respondents, 15 (41.7%) were between 22 and 25 years of age; 16 (44.4%) were between the age group of 25 to 30; and the rest 5 (13.9%) were above 30 years of age. Thus most of the instructors were in age group similar to female students in AMU. The effect of this might be explained from the point that the majority of instructors at the younger age may forced to ask female students for unwanted personal relationship and if the response is negative the instructors may use grades as a tool to punish those female students. Thus age of the instructors might be one of the causes aggravating the problem of female students' academic success in AMU.

Out of the 36 academic staff respondents 23 (63.9%) were first degree holders and the remaining 13 (36.1%) were second degree holders. Similarly, Chombe (2005:46) reported that 14.7% of the instructors in AMU were advanced diploma holders and 39.2% were first degree holders. Thus the actual situation in AMU seemed to violet one of the core idea of the Education and Training Policy of the country. The New Education and Training Policy stated that "Teachers, starting from kindergarten to higher education, will be required to have the necessary teaching qualification and competency in the media of instruction..." (TGEETP: 21 Articles, 3.4.5). This implies that most instructors in AMU were not effectively and efficiently qualified to teach in higher education level. The situation was very problematic for female students than male students because female students did not get priority in using few reference materials available in the libraries, they were unable to adequately utilize chemicals, equipments and other materials in the laboratory, and they were unable to fill the gap of understanding created at the time of poor classroom presentation by communicating with their seniors or other people in the campus. Thus more female students were affected by poor qualification of the instructors for tertiary level and this poor qualification aggravated the low academic success problem of female students in AMU.

Concerning their academic rank and position of the academic staff respondents, assistant lecturers got the lion share of the percentage. 15 (41.7%) reported that they were assistant lecturers, 13 (36.1%) were lecturers, 6 (16.6%) were in the department head position and the remaining 2 (5.5%) were head of faculty with the title of Assistant Professor. The effect of the academic rank of instructors in AMU on female students was not assessed in this study. With reference to the faculty, the academic staff respondents belong to, 12(33.3%) were from the faculty of Education, 9 (25%) from Applied Sciences, 8 (22.2%) from faculty of Business and Economics, 4 (11.1%) were from Engineering and

the rest 3 (8.3%) were from Water Technology Institute. The faculty category of the instructors was not showed any significant association with the other variables included in this study.

Two questions were forwarded to obtain information on the year of services of the academic staff respondents. Regarding the total years of experience, 3 (8.3%) of the respondents reported above 20 years of experience, 9 (25%) reported their total year of service was between 5 and 20 and the remaining 14 (38.7) were total year of services below five years. Concerning the experience in the current position, 30 (83.3%) reported that their experience was below five years, 2 (5.5%) with the experience between five and ten years, and the rest 4 (11.1%) of the academic staff respondents reported that their experience in the current status was above 15 years. Small years of experience together with problem of adequate qualification from the side of instructors in AMU, imposed profound adverse effect on students' academic success in general and female students' success in particular. Thus more female students were leaving the campus before they successfully complete their program of study.

4.2. Academic Success Gap between Male and Female Students in Arba Minch University

In the following few pages, the academic success gap between male and female students in Arba Minch University (AMU) is assessed based on the information obtained through document analysis. The first part of the section was concerned with the trend of enrollment in AMU for five years since 2003/4. The following part was devoted to assess the existing gap between the sexes in light of rate of attrition in percentage, percentage of students dismissed for academic reason, cumulative GPA, number of students registered in Dean's List and the number and percentage of graduates and those failed to graduate from each sex. The comparison between male and female students was based on considering the initial number of that sex with the same sex that affected or benefited by the academic processes like attrition, dismissal and graduation. Data on withdrawals and warnings were not available for the purpose of analysis. Thus these two indicators of academic success were not addressed in this study.

4.2.1. Sex and Enrollment in Arba Minch University

Table 1, the Trend of Students Enrollment in AMU by Faculty, Year and Sex

Faculty	Sex	Count	Year					Total
			2003/4	2004/5	2005/6	2006/7	2007/8	
Water Technology Institute	M	No	290	235	204	253	212	1194
		%	25.2	15	11.3	12.9	11.9	14.4*
	F	No	91	94	61	58	51	355
		%	23.5	14.8	12.3	8.2	6.9	12.9*
Engineering	M	No	382	427	353	228	236	1626
		%	33.2	27.4	19.6	11.6	13.3	19.7*
	F	No	94	167	80	57	70	468
		%	24.3	26.5	16.2	8.1	9.5	15.8*
Business and Economics	M	No	299	569	503	639	331	2341
		%	25.9	36.5	27.9	32.7	18.7	28.4*
	F	No	117	228	152	260	206	963
		%	30.2	36.1	30.7	36.8	27.9	32.6*
Applied Sciences	M	No	180	329	196	246	278	1229
		%	15.6	21.1	10.9	12.6	15.7	14.9*
	F	No	85	142	56	68	83	434
		%	21.9	22.5	11.3	9.6	11.3	14.7*
Education	M	No	-	-	543	589	715	1847
		%	-	-	30.2	30.1	40.4	22.4*
	F	No	-	-	146	264	327	737
		%	-	-	29.5	37.3	44.4	24.9*
Total	M	No	1151	1560	1799	1955	1972	8227
		%	13.9	18.9	21.8	23.7	21.5	100
	F	No	387	631	495	707	737	2957
		%	13.1	21.3	16.7	23.9	24.9	100
% Rate of Increment **		%	0	26.2	13.3	7.9	-10.3	35.04
		%	0	38.7	-27.4	29.9	4.1	47

Source: AMUR

1. No = Number, and % = Percentage; M=Male; and F=Female
2. (%) The percentage on the above table indicates the share out of that sex enrolled in a given specific year;
3. * Shows the percentage share out of total male or female students enrolled from 2003/4 to 2007/8 for each sex and faculty; and
4. * * Shows percentage increment of enrollment in 2007/8 compared to 2003/4.

As displayed on table 1, female students were enrolled in all five faculties regardless of the faculties' perceived level of difficulty. The other important aspect depicted on the table is that the percentage change in the rate of enrollment between 2003/4 and 2007/8. For boys, the enrolment rate was increased by 35.04% and for girls the increment was 47.48% since 2003/4 which was about 12% higher than that of male students. This indicated that more female students were joining Ariba Minch University in 2007/8 than in 2003/4. Such change in enrollment of female students was to some extent attributed to the implementation of the female affirmative action programs stated in the current Education and Training Policy document. In the current Education and Training Policy document certain policy adjustments were made to increase the percentage of female students enrolling at the higher institutions of Ethiopia. The results of the finding were supported by Anteneh (2000) and Abebayehu (as cited in Anteneh, 2000). Anteneh (2000) reported that the reserving of 20% of student enrolling capacity of any field of study especially in pure sciences areas for female applicants and lowering of the entrance point by 0.2 or some times by 0.4 for females than the criterion set for male students increased the number of female students joining the higher institution of Ethiopia. Similarly, Abebayehu (1998) found that the number of female students increased in higher education programs since the implementation of the New Education and Training Policy in Ethiopia (as cited in Anteneh, 2000:31). In the same way, MoE (2005) reported that the number of female students in government institutions of higher education has grown from 29000 in 1994 to 52305 in 2000 showing a 45% increase. When one considers government and private institutions students, in both extension and regular, the figure rises above 86000 (MoE, 2005:105). The implication of this is that the problem of access to higher education is to some extent showing improvement. Thus more many female students were joining AMU compared to enrollment of female students before the implementation of the current Education and Training Policy.

4.2.2. Sex and Attrition Rate in AMU

Table 2: Percentage Distribution of Attrition Rates by Faculty, Year, Semester and Sex

Year	Semester	Faculty										Average	
		WTI		Eng'g		FBE		App'Sci		Edu'n			
		M	F	M	F	M	F	M	F	M	F	M	F
2005/6	1	4.01	8.02	4.24	7.25	1.61	8.76	6.12	19.4	1.66	15.07	3.36	11.70
	2	4.6	8.33	5.72	17.59	4.25	11.17	2.96	6.94	6.19	23.08	4.82	14.15
2006/7	1	4.71	9.48	1.77	3.64	6.63	18.94	2.57	17.39	8.88	24.06	5.19	16.27
	2	4.13	8.99	0.73	2.29	7.73	21.79	3.97	16.05	6.79	31.58	4.89	18.02
2007/8	1	3.82	7.14	1.62	8.87	4.71	13.18	6.52	14.29	6.76	26.89	4.69	14.07
	2	3.07	7.08	2.15	5.96	5.59	18.5	5.68	18.68	6.77	23.15	4.65	14.67
Average	1	4.18	8.21	2.54	6.58	4.31	13.62	5.07	17.02	5.77	22.01	4.37	14.01
	2	3.93	8.13	2.86	8.61	5.73	17.15	4.20	13.89	6.58	25.94	4.78	15.61
Both		4.05	8.17	2.7	7.59	5.02	15.41	4.63	15.89	6.17	23.97	4.57	14.81

Source: AMUR

Note: WIT = Water Technology Institute; Eng'g = Engineering; FBE= Faculty of Business and Economics; App. Science = Applied Science; Edu'n= Education; F= Female; and M= Male

As it can be seen from Table 2, the average attrition rate for the five faculties from 2005/6 to 2007/8 was 14.81% for female students and 4.57% for male students in AMU. The highest average attrition rate for female students by faculty was 23.97% and the lowest was 2.7%. However, for male students the highest was 6.17% and the lowest was 7.59%. This shows that the attrition rate of female students far exceeded that of their male counter parts in AMU. This finding was also supported by the studies conducted in various universities of Ethiopia. For instance, Yalew (2003) reported that the attrition rate was higher for female students compared to male students in Bahir Dar University. 58.8% of female students and 34.2% of male students discontinued their education for various reasons, of

which academic dismissals took the largest share (59.46%) of the total attrition rates. The rate of survival for males was by far higher than that for the females – 68.8% and 43.2% respectively. Similarly, Asresash, Ruth and Kassahun (2002) found that the attrition rate of female students was much higher than male students in Jimma University. In the same way, the results obtained in this study imply that more female students were leaving Arba Minch University before they successfully complete their education compared to male students. Therefore, female students were poor survivors in the university. Even if the percentage of female entrants increased by 12% more than that of male students, significant number of female students were unable to sustain in the academic environment in AMU. The academic success problem of female students was more severe than male students in AMU. The major causes for high female attrition than male could be explained from the side of female students themselves, and institution related factors. The application of inappropriate study skills, poor academic self-concept, and low academic achievement motivation from the side of female students was contributing for low success rate of female students. And inadequacy of facilities and services and the negative attitude of instructors toward female students and their negative classroom behaviors were some of suggested reasons for high attrition rate of female students in AMU.

4.2.3. Sex and Dismissal for Academic Reason in AMU

Table 3: Percentage Distribution of Students Dismissed for Academic Reasons by Faculty, Year, Semester and Sex as Compared to Respective Sex Enrolled

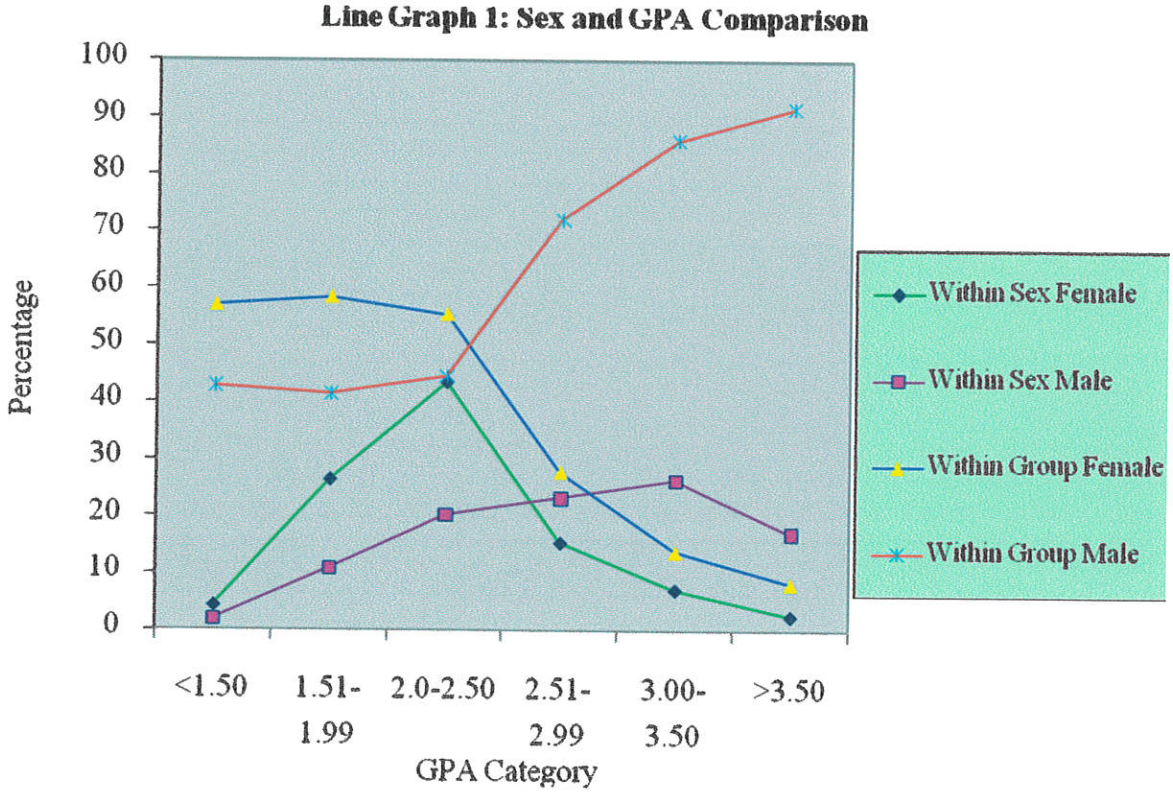
Year	Semester	WTI		Eng'g		EB		Appl'Sci		Edu'n		Average	
		M	F	M	F	M	F	M	F	M	F	M	F
2005/6	1	4.01	39.39	4.23	7.25	1.61	8.75	6.12	19.40	1.65	15.06	3.52	17.97
	2	4.60	8.33	5.71	17.58	4.88	13.83	2.95	6.94	6.18	25.27	4.86	14.39
2006/7	1	4.71	9.48	1.76	3.64	6.63	18.9	2.5	17.39	8.87	24.06	4.9	14.7
	2	4.13	8.99	0.73	2.28	7.37	21.8	3.9	16.05	6.78	31.58	4.6	16.14
2007/8	1	3.81	7.14	1.62	8.86	4.76	13.2	6.5	14.28	6.76	26.89	4.7	14.07
	2	3.07	7.08	2.15	5.96	5.59	18.5	5.7	18.68	6.77	23.15	4.6	14.67
Average	1	4.18	18.67	2.54	6.58	4.33	13.6	5.1	17.02	5.76	22	4.4	15.58
	2	3.93	8.13	2.86	8.61	5.95	18.0	4.2	13.89	6.57	26.66	4.7	15.06

Source: AMUR

Note: WIT = Water Technology Institute; Eng'g = Engineeering; FBE= Faculty of Business and Economics; App. Science = Applied Science; Edu'n= Education; F= Female; and M= Male

As it is depicted on Table 3, in all the five faculties and the six semesters, the percentage of female students dismissed for academic reasons is higher than their male counterparts when each of the sexes treated independently. This implies that female students were not good survivors in AMU. Most female students were forced to leave the campus for poor academic performance. The causes for this high dismissal of female students for academic reasons were related to the students themselves, poor facilities and services, low instructors' support and lack of care for female students in the university.

4.2.4. Sex and Cumulative GPA in AMU



Source: AMUR

Line Graph 1 depicted the comparison of cumulative GPA between sexes (within group) and within the sex. Considerable percentage of female students aggregated in the lower ranges of GPA than male students. For instance, within sex comparison showed that about 31% of female students were having cumulative GPA below 2.00. Whereas from male students only 13.7% having cumulative GPA below 2.00. Thus, female students outnumbered male students by 17.2% in the GPA range below 2.00. Contrary to this, from female students only 10% fall in the GPA range greater than and equal to 3.00 whereas from male students 53.5% obtained GPA greater than or equal to 3.00. Here, the percentage of male students exceeded female students by more than 40%. Within group comparison also showed that the percentage share of male students was lower than the percentage of female students in the lower GPA range and the percentage of female students was lower than the percentage of male students in the higher ranges of GPA. The result showed that most female students achieve lower GPA compared to male students and even among themselves in AMU. As a result of having low GPA

most female students were forced to leave the campus before they successfully complete their study. The finding was supported by some of studies conducted in the higher institutions of Ethiopia. For instance, Hedija (2002) reported that in the faculties of Education and Health in Harumaya University, female students achieved lower cumulative GPA than male students. Similarly, Yalew (2003) also showed that gender had the highest positive effect on GPA showing that male students had higher mean GPA than female students. This implies that female students were severely affected by low academic success in AMU. The possible reasons may include lack of effective and efficient support from instructors and other responsible bodies in the university, poor supply of facilities and services and low success orientation from the side of female students themselves.

Table 4: Percentage of Students Registered in Dean's List by Faculty, Year, Semester and Sex Compared to Respective Sex Enrolled in each Semester

Year	Semester	WIT		Eng'g		Bus. & Eco		App.sci		Education		Average	
		M	F	M	F	M	F	M	F	M	F	M	F
2005/6	1	4.37	0	12.19	5.18	19.65	5.08	16.67	2.98	11.23	0	12.82	2.65
	2	9.07	0	19.39	9.04	14.86	13.46	5.11	17.84	4.34	2.19	14.02	3.37
2006/7	1	7.81	0.86	22.68	6.88	13.46	5.11	17.84	4.34	15.61	1.87	15.48	3.81
	2	7.56	1.12	13.69	2.85	8.96	5.55	16.61	12.34	17.89	3.82	12.94	5.14
2007/8	1	9.71	2.14	19.22	4.92	9.12	5.68	15.03	5.29	16.29	2.94	13.87	4.19
	2	12.5	2.65	16.72	5.29	12.22	8.81	15.53	12.08	13.17	5.03	14.02	6.77
Average	1	7.29	1	18.03	5.66	14.06	5.29	16.51	4.20	14.37	1.60	14.04	3.55
	2	9.7	1.26	16.6	5.73	12.01	6.20	15.72	8.6	14.27	3.68	13.66	5.09

Source: AMUR

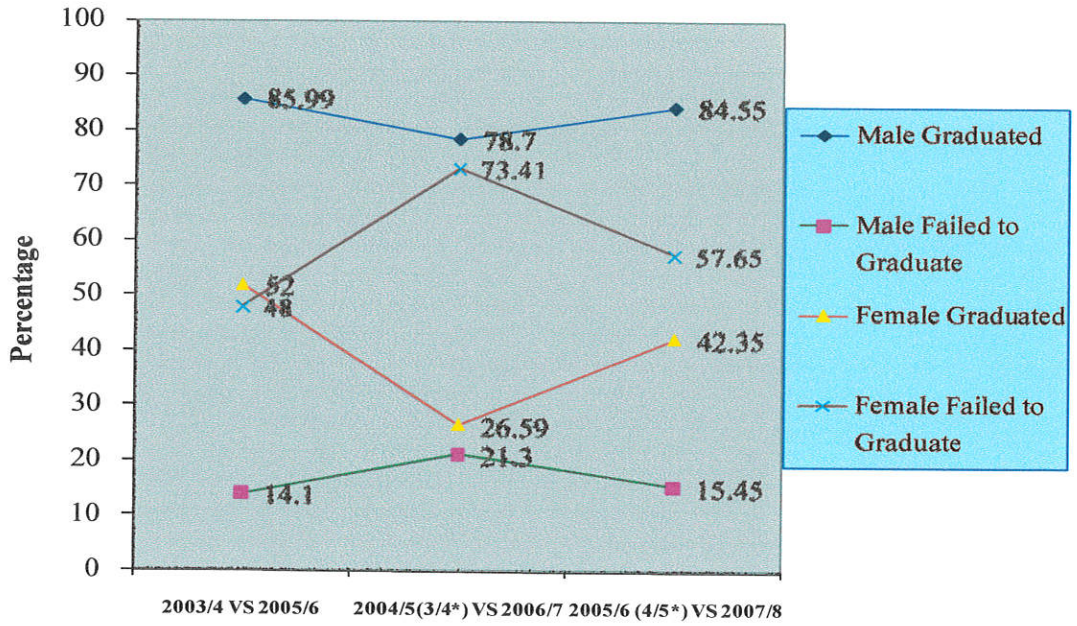
Note: WIT = Water Technology Institute; Eng'g = Engineeering; FBE= Faculty of Business and Economics; App. Science = Applied Science; Edu'n= Education; F= Female; and M= Male

As can be seen from table 4, the percentage of female students registered in Dean's List compared to those female students enrolled is very low. On average it is below 7% for the six semesters and five

faculties. When the two sexes compared, the percentage of male students registered in Dean's list outnumber female students. Minimum percentage for girls was 0 and for boys it was 4.37, the maximum percentage was 12.08 for girls and 22.68 for boys. This showed that most female students in AMU were unable to achieve higher GPA to get registered in Dean's List compared to male students regardless of faculty, semester and year level. The implication is that the academic achievement motivation and the self-concept of most female students affected by the belief that higher GPA reserved for male students. As a result female students tend to employ poor study skills and work to get pass mark rather than to score higher grades in their field of study which adversely affect their academic success in AMU.

4.2.5. Sex and Graduation in AMU

Line Graph 2: Comparison between Male and Female in their Graduation Trend



Year of Enrollment verses Year of Graduation

Source: AMUR

Line Graph 2, compares percentage of students successfully completed their program of study within predetermined year of graduation and those students failed to graduate at the end of the year of graduation for both female and male students in AMU. As it is depicted on the graph, sharp discrepancy observed between the two sexes in relation to the percentage of graduates and those failed to graduate. The average percentage of graduation showed that from all male students joined the five faculties from 2003/4 to 2005/6, 79.26% were graduated from 2005/6 to 2007/8 whereas only 36.51% of female students get graduated during the same years of enrollment and graduation the rest 63.49% of female students were unable to complete. The result seemed to be contrary to Chombe's (2005) report at the same university. Chombe reported that 72.5% of female students were successfully completed their program of studies in six departments of Engineering faculty from 1993 to 1996 academic year in AMU whereas for males the rate of completion was 34.3%. The findings of Chombe (2005) seem to even refute within the study itself: on one hand he reported that the female students accounted for 88.6% of the dropouts and on other hand he contended that 72.5% of female students successfully completed their program of study. Thus there might be information gap at the time of his study. Substantiating to the results obtained in this study, Fentaw Abegaz (2001:54) found that from female students who joined Addis Ababa University College of Social Science in 1994, 54% were failed to complete their study within a four year uninterrupted study period. The result implies that most of female students were unable to complete their program of studies successfully in AMU within the predetermined year of completion. Thus more female students fail than succeed in the academic programs of the university. The possible reasons for this were application of inappropriate study strategies, poor academic self-concept and low academic achievement motivation from the side of the female students themselves; instructors negative attitude towards the academic potential of female students, instructor' inappropriate classroom behavior and inability to provide support for female students, inadequacy of reading and reference materials, and inadequacy of facilities and services in AMU and financial difficulties.

4.3. Effects of Student, Institution and Socioeconomic Factors on Female Students' Academic Success

In the previous section it was clearly observed that there was problem of female students' academic success in AMU. Number of factors had effect on aggravating the severity of the problem. One thing that could not be ignored is that all the factors involved may not exert equal pressure. Some of the

factors might throw in substantial weight and others might put lesser difficulty. Therefore, in this section factor's relative contribution in exacerbating academic success problem of female students on individual factor level and the combined effect of the factors were investigated. First, inter-variable correlation and multicollinearity diagnostics was conducted to check for the existence of high inter-collinearity among the variables. Second, regression analyses were conducted to determine the combined and independent effect of all student, institution and socioeconomic factors on female students' academic success.

4.3.1. Multicollinearity Diagnostics

Table 5: Multicollinearity Diagnostics of the Dependent and Independent Variables (N=180)

M	D	Eigen value	Condition Index	Variance Proportion								
				(Constant)	SS	ASC	AAM	FS	IN_R	PE	PI	HC
	1	8.565	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.150	7.565	.02	.00	.01	.01	.01	.01	.26	.09	.02
	3	.097	9.384	.02	.00	.02	.01	.00	.02	.06	.00	.61
	4	.049	13.185	.10	.10	.01	.01	.11	.01	.37	.23	.03
	5	.045	13.766	.10	.10	.00	.00	.01	.04	.20	.61	.12
	6	.030	16.891	.02	.16	.59	.04	.02	.17	.01	.04	.09
	7	.027	17.954	.17	.03	.10	.32	.22	.12	.09	.03	.03
	8	.025	18.621	.00	.58	.02	.08	.06	.51	.00	.00	.06
	9	.013	25.804	.58	.02	.25	.53	.57	.12	.01	.00	.04

P<0.05

Note: **SS**= Study Skills; **ASC** =Academic Self-Concept; **AAM** =Academic Achievement Motivation; **FS** =Services and Facilities in AMU; **IN_R** =Instructors' Related Factors; **PE** =Educational Background of Parents; **PI** =Income of Parents; and **HC** =House Condition of Parents; **M**=Model; and **D**=Dimensions

The collinearity or multicollinearity diagnostics displayed on Table 5 indicated that the House Condition (HC) of the parents was found to be unable to fulfill the criteria set for the regression analysis. This was because the Eigen value for house condition (.013) was much closer to zero; the associated Condition Index value was closer to 30; and in the variance proportion House Condition accounted for 0.61 of the variance proportion. Therefore, house condition was excluded from further involvement in the regression analyses. The remaining seven variables were passed for further analyses without any modification. The inter-variable correlation showed no significant problem in the variables involved in the study (for more information you may consult Appendix 'F').

4.3.2. Effects of Student, Institution and Socioeconomic Factors on Female Students Academic Success in AMU

Table 6: Multiple Regressions Analysis for Student, Institution and Socioeconomic Factors (N=180)

A

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.226	.135		1.674	.096					
	SS	.323	.046	.429	6.994	.000	.777	.471	.286	.443	2.26
	ASC	.062	.045	.091	1.385	.047	.651	.105	.057	.385	2.60
	AAM	.128	.053	.157	2.422	.016	.672	.182	.099	.398	2.51
	FS	.025	.059	.022	.419	.049	.469	.032	.017	.593	1.69
	IN_TRRF	.083	.051	.107	1.630	.020	.675	.123	.067	.387	2.59
	PE	.026	.037	.043	.718	.032	.532	.055	.029	.464	2.16
	PI	.116	.038	.185	3.069	.002	.587	.228	.125	.461	2.17

B

Model	Source	Statistics				
		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.637	8	5.830	53.18	.000(a)
	Residual	18.745	171	.110		
	Total	65.382	179			

C

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.845[a]	.713	.700	.33109	.713	53.181	8	171	.000

a. Predictors: (Constant), HC (House Condition of Parents), FS (Services and Facilities in AMU), AAM (Academic Achievement Motivation of the Respondents), PE (Educational Background of Parents), SS (Study Skills of the Respondents), PI (Income of Parents), IN_TRRF (Instructors' Related Factors), ASC (Academic Self-Concept of the Respondents)

$P<0.05$

4.3.3. Effects of Student Related Factors on the Academic Success of Female Students

4.3.3.1. Difference between High and Low Achieving Female Students in their Response to Student Related Factors

The result of the independent sample t-test indicated that for all students' related variables and sub-variables there was statistically significant difference obtained at the significance level 0.05 (2-tailed). The result showed that for all students' related variables and sub-variables the mean score of low achieving female students was found to be lower than the mean score for high achieving female students. This implies that low achieving female students employ less efficient study methods, had poorer academic self-concept, and experienced lower academic achievement motivation compared to high achieving female students. Moreover, the result showed that low achieving female students were poorer in time management, tended to employ inappropriate reading techniques, had poorer listening and note-taking skills, less concentrated on their study, employed poorer memory retention mechanisms and frequently faced problems in preparing for and taking exams compared to high achieving female students. Therefore, low female students academic success in AMU was attributed to inappropriate study strategies, poor academic self-concept and low academic achievement motivation (for more information on the statistics of the t-test, you may consult Appendix 'H').

4.3.3.2. Combined and Relative Effects of Study Skills, Academic Self-Concept, and Academic Achievement Motivation on Female Students' GPA

Table 7: Regression Analyses for Study Skills, Academic Self-Concept, Academic Achievement Motivation and GPA (N=180)

A

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.698	.099		7.055	.000					
	SS	.584	.035	.777	16.461	.000	.777	.777	.777	1.000	1.00
2	(Constant)	.374	.112		3.351	.001					
	SS	.441	.043	.587	10.228	.000	.777	.609	.451	.591	1.69
	AAM	.242	.047	.297	5.179	.000	.672	.363	.228	.591	1.69
3	(Constant)	.336	.110		3.041	.003					
	SS	.403	.045	.536	9.039	.000	.777	.563	.391	.534	1.87
	AAM	.168	.053	.207	3.181	.002	.672	.233	.138	.443	2.26
	ASC	.120	.043	.177	2.783	.006	.651	.205	.120	.465	2.15

a. Dependent Variable: GPA

B

Model Summary [d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.777[a]	.604	.601	.38161	.604	270.964	1	178	.000
2	.810[b]	.656	.652	.35662	.052	26.827	1	177	.000
3	.819[c]	.670	.665	.35001	.015	7.745	1	176	.006

a. Predictors: (Constant), SS (Study Skills of the Respondents)

b. Predictors: (Constant), SS (Study Skills of the Respondents), AAM (Academic Achievement Motivation of the Respondents)

c. Predictors: (Constant), SS (Study Skills of the Respondents), AAM (Academic Achievement Motivation of the Respondents), ASC (Academic Self-Concept of the Respondents)

d. Dependent Variable: GPA

$P<0.05$

As can be seen from table 7 (A), the significance level for all the three variables was less than 0.05 level and the t- value was greater than +2. Thus the coefficients depicted were statistically significant. The t

value displayed on the table indicated the effectiveness of the model in explaining the variation in the dependent variable. The t value for study skills was higher than academic achievement motivation and the t value for academic achievement motivation was larger than the academic self-concept. In addition to this, as it is shown on Table 7 (B), the three student related variables explained 67% of the variance proportion on female students cumulative GPA. This implies that study skills, academic achievement motivation and academic self-concept had substantial effect on female students' academic success. Therefore, most female students in AMU face academic failure because of the employment of inappropriate study strategies, having poor academic self-concept and showing low academic achievement motivation. As it is also depicted on Table 7 (C), 60.4% of the variation on female students' grade point average was explained by study skills, 5.2 % of the change on the variance proportion was accounted to academic achievement motivation and the remaining 1.5% variance proportion was explained by academic self-concept of female students. This shows that study skills were more effective in explaining the variation on female students GPA than the remaining two variables and from the two variables academic achievement motivation was powerful than academic self-concept in explaining the variation. This finding was supported by Kifle (2004). Kifle reported that from the three variables he attempted to explain secondary students' academic achievement in the high schools of Tigray, study habits explained the lion share 23% of the variance on the dependent variable. Moreover, Kifle found that study habits were the major predictor of academic achievement for male students and for female students academic achievement motivation was found to be the major predictor of academic achievement. Similarly, Aemero (2005) found that 6.5% of the variation on academic achievement of high school students in Dessie was explained by the cognitive strategy use and 2.5% was explained by self-regulation. As it is observed, the variance proportion explained in this study was higher than from both Kifle's and Aemero's. This can be partly explained from the point that, the two studies were conducted at high school level in which other factors were highly interfere with students' academic performance while at university level the influence of such factors minimized to the lowest point or some of them disappear. For instance, lack of time to study as a result of extra work at home for female students disappear at university level; female students became free from most of time consuming societal activities like visiting relatives and sick person regularly, attending mourning ceremonies, wedding ceremonies and so on in their campus. In campus if female students intend to study, they can do as they desired. But at high school level they have to do all the study and the house chores side by side if they want to study. From other perspective, the percentage of variance explained by study skills was high because, female students had not got much time to

exercise various ways of studying or reading approaches at lower grade levels because of the very scant time available for female students to focus on their learning. Thus female students face difficulty to know which approach of study technique lead them to success in their academic tasks. Cottrell (2001:16) put that some of the approaches that students bring to their studies can lead them to under performance, withdrawal or failure regardless of their ability.

As it depicted on Table 7, academic achievement motivation found to be the second major predictor of female students cumulative GPA in AMU following study skills. The supportive finding was also forwarded by Kifle (2004), he found that academic achievement motivation explained 2.73% of variance in students' achievement which was the second major predictor following study habits. Similarly, regarding the relationship between achievement motivation and academic performance, many studies have showed a positive correlation (Girma, 1997:23). Concerning the academic self-concept, Garuma (2005:28) reported that academic self-concept was a significant predictor of academic achievement. His multiple and step-wise regression analysis showed that 14.7% of the variance in academic achievement for high school students accounted to academic self-concept. Similarly, Taddese (2006) reported 19.4% in mathematic achievement of students was explained by math self-concept. The results obtained in this study implied that most of female students in AMU were unable to successfully complete their program of study because, most of them employed study strategies inappropriate for success in higher institutions; they had low academic achievement motivation and poor academic self-concept together exerted greater limitation on their academic success. From the three variables, poor study skills was the major factor exasperating the academic success problem of female students in AMU and followed by low academic achievement motivation and finally by poor academic self-concept. The possible reasons for application of inappropriate study strategies, having poor academic self-concept and low academic achievement motivation may be lack of provision of efficient and effective training in the campus and lack of sufficient time for female students to exercise various study techniques as a result of extra house hold tasks in lower grade levels than male students. In addition to this, the negative attitude of the instructors in the campus associated with the insufficient provision of facilities and services may lower their academic achievement motivation and forced female students to have poor self-concept in their academic tasks in their respective field of study. Thus their academic achievement motivation was lower. Franken states that "there is a great deal of research which showed that the self-concept is perhaps the basis for all motivated behavior (as cited in Pajares & Miller, 1994:194). Therefore, study skills, academic

achievement motivation and academic self-concept had considerable effect on female students' academic success in AMU.

4.3.3.3. The Effects of Sub-Study Skill Variables on Female Students' Academic Success

There were six sub-variables categorized as part of study skills. Even though study skills explained 60.4% of the variance, these all sub variables did not contribute equally. Therefore, it was reasonable to present step-wise regression analysis to prioritize from these six sub-variables.

Table 8, Step-Wise Regression Analysis for Sub-Variables of Study Skills (N=180)

Model Summary [e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.726[a]	.426	.424	.41706	.426	197.888	1	178	.000
2	.791[b]	.526	.522	.37158	.100	47.244	1	177	.000
3	.825[c]	.581	.575	.34431	.055	30.144	1	176	.000
4	.833[d]	.604	.606	.33847	.023	7.126	1	175	.008

a. Predictors: (Constant), LNT (Listening and Note- Taking Habit of Respondents)

b. Predictors: (Constant), LNT (Listening and Note- Taking Habit of Respondents), RS (Reading Strategy of the Respondents)

c. Predictors: (Constant), LNT (Listening and Note- Taking Habit of Respondents), RS (Reading Strategy of the Respondents), MT (Memory Techniques)

d. Predictors: (Constant), LNT (Listening and Note- Taking Habit of Respondents), RS (Reading Strategy of the Respondents), MT (Memory Techniques), TM (Time Management)

e. Dependent Variable: GPA

$P<0.05$

As can be seen from table 8, from six sub-variables of study skills the two (concentration and test-taking) were unable to explain statistically significant variation in female students cumulative GPA. From the remaining four, listening and note-taking explained 42.6% of the variance proportion on female students GPA, followed by reading (study) strategy (10%), then by memory techniques (5.5%), and finally by time management (2.3%). This implies that most of female students in AMU failed to effectively listen and took lecture notes, applied inappropriate study strategies, employed poor memory retention mechanisms and they were poor in time management. As a result more female students forced to leave the campus before they successfully complete their academic program. Therefore, poor listening and note-taking, inappropriate study strategies, poor memory retention

techniques, and poor time management exerted profound effect on female students' academic success in AMU. From possible reasons for this, lack of previous experience in practicing such approaches and lack of effective and efficient trainings on these areas can be mentioned.

4.3.3.4. Cross Tabular Analysis for Some of Items in Student Related Factors

Table 9, Cross Tabulation for Some of Items in Listening and Note-Taking Sub-Scale (N=180)

No	Item	Group	1	2	3	4	5
1	Rewriting Lecture Note	<2.00	14.4%	15.5%	25%	17%	14.4%
		≥2.00	2%	3%	14%	41%	30%
2	Comparing Notes with Classmate	<2.00	30%	26%	23.3%	16.7%	3.3%
		≥2.00	4.4%	10%	25%	24%	35.6%
3*	Difficulty in determining important points during lecture	<2.00	11%	13%	30%	27%	17%
		≥2.00	36%	37%	12%	10%	3%
4*	Problem of having well organized lecture note	<2.00	27%	14%	20%	17%	20%
		≥2.00	43%	36%	13%	3.4%	3.3%
5	Recording everything what the lecturers says	<2.00	31%	25%	17.7%	17.7%	7%
		≥2.00	4.4%	7.7%	23%	22%	42%
6*	Listening carefully than taking notes	<2.00	2.2%	15.6%	26.7%	31.1%	24.4%
		≥2.00	26.6%	44%	16.6%	7.7%	4.4%
7*	Usually getting wrong materials into lecture notes	<2.00	8.8%	33.3%	21.15	22.2%	14.4%
		≥2.00	42.2%	35.5%	13.35	5.5%	3.3%
8	Reviewing Lecture Notes before the Next Lecture Class	<2.00	17.8%	24.4%	27.8%	13.3%	16.7%
		≥2.00	6.7%	5.6%	23.3%	34.4%	30.0%
9	Converting Text and Lecture Notes into Once own Words	<2.00	32.2%	28.9%	16.7%	16.7%	5.6%
		≥2.00	3.3%	8.9%	20.0%	22.2%	45.6%
10	Organizing Main Ideas and Details into some Logical or Meaningful Order	<2.00	4.4%	30.0%	41.1%	15.6%	8.9%
		≥2.00	2.2%	8.9%	15.6%	37.8%	35.6%

Note: 1=Almost Never; 2=Less than half of the Time; 3=About Half of the Time; 4=More than Half of the Time; 5=Almost Always; %=Percentage within the Group and *Items with Negative Implication.

As it is depicted on table 9, the high achieving and the low achieving female students differed in their note-taking practice. For instance, for all positive statements '1', '2', '5', '8', '9', and '10' the percentage of low achieving female students was higher than that of high achieving female students for the choices 'Almost Never' and 'Less than Half of the Time' whereas the percentage of high achieving female students overwhelm low achieving female students for the rating scales of 'More than Half of the Time' and 'Almost Always'. The result showed that high achieving female students more frequently rewrote their lecture notes, compared their lecture notes with notes of other students taking the courses to check for completeness of their note, recorded everything what the lecturers said in the classroom, reviewed their lecture note before the next lecture session, converted lecture notes into their own words and organized the ideas of their notes and other read materials in some logical order to help them better understand the material later than low achieving female students. Contrary to this, for negatively stated items '3', '4', '6', and '7' the percentage of high achieving female students was higher than low achieving female students for rating scales 'Almost Never' and 'Less than Half of the Time' and the percentage of low achieving female students engulf the percentage of high achieving female students for the choices 'Almost Always' and 'More than Half of the Time'. This shows that majority of low achieving female students faced difficulty in identifying important ideas in classroom lecture, problem of having well organized lecture notes, and prefer to listen carefully to a lecture than recording what the lecturer says, and usually get wrong materials to their lecture notes which cause difficulty to understand the lecture note later. If the female students fail to listen and take note effectively, they are vulnerable to the negative consequences of the forgetting. Because within two weeks people forget 80 percent or more of what they have heard. And in four weeks they are lucky if 5 percent remain! The significance of taking-note is so crucial that the point bears repeating to guard against the relentlessness of forgetting (Langan, 1984:89). The possible causes for this may include inability to sit where the teacher will always see; failure to read in advance about the topic to be discussed in class; being less conscious in watching for signals at the time of listening; inability to write every example the instructor gives including the details or explaining main points; problem in outlining the notes; ignoring to take notes at the time of class discussion and to the end of classes; and inability to read notes soon after class (Langan, 1984). The implication of this is that most female students failed in their academic tasks in AMU as a result of poor listening and note taking ability. Therefore, poor listening and note taking skills imposed considerable adverse effect on female students' academic success in AMU.

Table 10, Cross Tabular Analysis for Study Strategy and Time Management Sub-Variable (N=180)

No	Item	Group	1	2	3	4	5
1	Identify Clarifying Details under each Main Idea while Studying a Material	<2.00	16.7%	32.2%	21.1%	21.1%	8.9%
		≥2.00	12.2%	14.7%	26.7%	23.1%	23.3%
2*	Reading and Rereading without Understanding the Material	<2.00	8.9%	20.0%	22.2%	38.9%	10.0%
		≥2.00	34.4%	36.7%	14.4%	6.7%	7.8%
3*	Problem of Identifying Important Ideas in a Reading Material	<2.00	2.2%	13.3%	25.6%	40.0%	18.9%
		≥2.00	27.8%	35.6%	18.9%	11.1%	6.7%
4	Changing Reading Speed in Response to the Difficulty Level of the Material	<2.00	33.4%	38.9%	15.6%	8.9%	3.3%
		≥2.00	17.8%	23.3%	13.3%	18.8%	26.7%
5	Habit of Employing Study Systems like (Survey, Question, Read, Recite and Review); (Read, Recite, and Review); and (Question in the Margins)	<2.00	24.5%	40%	18.9%	13.3%	3.3%
		≥2.00	6.7%	7.8%	21.2%	30%	34.45
6	Habit of Using Calendar Book to Record Upcoming Academic and Personal Activities	<2.00	31.1%	43.3%	11.1%	8.9%	5.6%
		≥2.00	21.1%	33.3%	24.4%	11.1%	10.0%
7	Habit of Preparing Daily to do List for Academic and Personal Activities	<2.00	27.8%	30.0%	24.4%	16.7%	1.1%
		≥2.00	16.7%	30.0%	28.9%	14.4%	10.0%
8	Habit of Setting up Master Schedule of Fixed Monthly Activities	<2.00	28.9%	43.3%	16.7%	8.9%	2.2%
		≥2.00	21.1%	22.2%	21.1%	25.6%	10.0%
9	Setting regular Study time Everyday	<2.00	18.9%	26.7%	24.4%	16.7%	13.3%
		≥2.00	10%	13.8%	23.3%	30.0%	22.9%
10*	Waste Time because of Not get Organized Well	<2.00	6.7%	10.0%	24.4%	36.7%	22.2%
		≥2.00	22.2%	25.6%	32.2%	16.7%	3.3%
11	Knowing the Best Time of Study in a Day	<2.00	24.4%	32.2%	17.8%	14.4%	11.1%
		≥2.00	13.3%	25.2%	18.9%	27.8%	14.8%
12*	Facing Shortage of Study Time	<2.00	2.2%	7.8%	13.3%	45.6%	31.1%
		≥2.00	10.0%	22.2%	21.1%	28.9%	17.8%
13*	Habit of Spending too much time on some Subjects and not enough Time on others	<2.00	4.4%	13.3%	20.0%	33.3%	28.9%
		≥2.00	20.0%	32.2%	24.4%	17.8%	5.6%
14*	Habit of Cramming the Night before Exam	<2.00	3.3%	4.4%	22.2%	34.4%	35.6%
		≥2.00	11.1%	20.0%	17.8%	32.2%	18.9%
15	Quizzing oneself over the Material that could Appear in future Exams	<2.00	12.2%	25.6%	34.4%	22.2%	5.6%
		≥2.00	5.6%	8.9%	21.1%	33.3%	31.1%

Note: 1=Almost Never; 2= Less than Half of the Time; 3=About Half of the Time; 4=More than Half of the Time; and 5=Almost Always; and Items with asterisk (*) would have negative implication.

In general, the respondents' position for the items listed on Table 10 can be grouped into three parts.

First, for negatively stated items '2', '3', '10', '12', '13', and '14', majority of female students from lower GPA group rated either "Almost Always" or "More than Half of the Time" contrary to this for the same items significant number of female students from higher GPA rated "Almost Never" and "Less than Half of the Time". This implies that most of low achieving female students depend on less effective study habits than high achieving female students. Thus more female students were unable to succeed in AMU.

Second, for some of positively stated items '1', '4', '5', '11', and '15', most female students from lower GPA rated 'Almost Never' and 'Less than Half of the Time' whereas majority of female students from higher GPA group rated 'Almost Always' and 'More than Half of the Time'. The implication is that high achieving female students employ effective and efficient study skills compared to low achieving female students and as a result of their utilization of less effective study skills low achieving female students were unable to successfully complete their academic program.

Thirdly, for four positively stated time management items '6', '7', '8', and '9' the difference between high achieving and low achieving female students was small compared to the other items listed on the table. This implies that most of female students in AMU face the problem of poor time management. Close look over these items showed that the percentage of low achieving female students outnumber the percentage of high achieving female students in rating scales of "Almost Never" and 'Less than Half of the Time' whereas the percentage of high achieving female students overwhelm low achieving female students in rating scales of 'Almost Always' and 'More than Half of the Time'. Therefore, even if poor time management was a problem observed on all female students in AMU, low achieving female students were found to be least time managers in the university. Time is a unique resource we have because it is impossible to store or keep time for future use- the wasted time gone forever it never return back, time is equally available for all of the students regardless of their achievement and time is a resource that no one can borrow from or lend to anybody. Thus inability to effectively manage time and efficiently utilize it in higher institution lead to low academic achievement and by that it results in low rate of academic success. The possible causes for this poor time management may be implied from three angles. First, female students were never experienced effective time management habits for academic purpose in the lower grade levels because of the house chores. Second, the university was unable to provide effective and efficient training on time management techniques for female students learning in AMU. And finally, female students were negatively affected

by 'time eaters' like rescheduling: - inability to prioritize the most important tasks; over-accessibility: - inability to make assertive communication; tyranny of the urgent: - inability to ignore less important but urgent tasks; Distractibility: - mind wonder, drift or reaction to a variety of stimuli; procrastination: - to put off intentionally the doing of something that should be done; fear of failure: - irrational "self-talk"; perfectionism: - if at first you do not succeed, why bother? And depression: – prolonged, negative, persistent, being down or sad over a disappointment, failure, or loss the information was retrieved from (http:// www.studygs.net/attmot.htm).

From another angle, as it is depicted on Table 10, the low achieving female students found to be employing less effective reading strategies compared to high achieving female students. For instance, for the item "Reading and Rereading without Understanding the Material" 38.9% and 10% of students from lower GPA group reported they faced the problem more than half of the time and almost always respectively whereas from higher GPA category 34.5% reported that they almost never face such problem and 36.6% face it less than half of the time. The difference is also true for items '1', '3', '4', and '5' on Table 10. This shows that most of female students scoring lower GPA in AMU were applying inappropriate study techniques. Therefore, reading and rereading without focusing on understanding the material, inability to identify important ideas in a reading material, lack of having well organized study material and as a result facing shortage of study time, problem of giving too much time for few courses and very scant time for other courses, inability to use reading or studying strategies, inability to be flexible in reading based on the difficulty level of the reading material and cramming the night before the exam day were some of the causes for low academic success of female students in AMU. This implies that most of female students in AMU were not well acquainted with the study techniques suggested by Pauk and Fiore (1989). Some of these study techniques are Question-in-the-Margin Study System (Q-I-T-MSS); Surveying, Questioning, Reciting, Reading, and Reviewing (SQ3R); and Reading, Reciting and Reviewing (3Rs). Thus most female students fail than succeed in their academic programs in AMU. Lack of effective and efficient training on various strategies of studying may be the most important reason for this failure.

Table 11, Cross Tabulation for Concentration, Memory Mechanisms and Taking Tests (N=180)

No	Item	Group	1	2	3	4	5
1	When Sitting Down to Study, let Oneself Intend to Study	<2.00	11.1%	23.3%	28.9%	28.9%	7.8%
		≥2.00	2.2%	8.9%	21.1%	40.0%	27.8%
2*	Inability to Find Ways to Learn a Material when it is Naturally Not Interesting	<2.00	6.7%	18.9%	23.3%	34.4%	16.7%
		≥2.00	23.3%	37.8%	24.4%	6.7%	7.8%
3*	Forget to have all Study Equipments Handy to Study Place	<2.00	15.6%	22.2%	20.0%	27.8%	14.4%
		≥2.00	30.0%	36.7%	18.9%	11.1%	3.3%
4*	Difficulty in Concentrating when Studying	<2.00	5.6%	18.9%	27.8%	26.7%	6.7%
		≥2.00	31.1%	40%	10%	8.9%	10%
5*	Problem in following a Definite Study Schedule	<2.00	4.3%	12.3%	22.2%	40%	21.2%
		≥2.00	16.7%	42.2%	14%	20%	6.7%
6	Habit of Reviewing a Reading Material within Short Period of Time	<2.00	18.9%	27.8%	21.2%	20%	12.2%
		≥2.00	4.5%	6.7%	17.7%	36.7%	34.4%
7	Habit of Studying in Group or Classmate	<2.00	34%	28.9%	17.8%	11.1%	7.8%
		≥2.00	6.7%	8.9%	30%	25.6%	28.9%
8	Using Visuals like Sketches, Mind Maps, Diagrams, Charts in Class Notes	<2.00	21.1%	36.7%	25.6%	12.2%	4.4%
		≥2.00	3.3%	12.2%	24.4%	25.6%	34.5%
9	Using Mnemonics	<2.00	31.2%	28.9%	17.8%	14.5%	7.8%
		≥2.00	2.2%	14.5%	21.2%	31.2%	31.1%
10*	Trouble in Finishing Tests on Time	<2.00	10.0%	12.2%	21.1%	28.9%	27.8%
		≥2.00	23.3%	36.7%	17.8%	11.1%	11.1%
11*	Lose Marks on Exams because of Careless Mistakes	<2.00	8.9%	14.4%	24.4%	34.4%	17.8%
		≥2.00	25.6%	42.2%	21.1%	6.7%	4.4%
12*	Inability to do best on Exams because of getting Nervous in the Exam Rooms	<2.00	14.4%	16.7%	21.1%	27.8%	20.0%
		≥2.00	20.0%	37.8%	23.3%	17.8%	1.1%
13*	Habit of losing Points on Essay Tests Even if Knowing the Material well	<2.00	11.1%	18.9%	18.9%	36.7%	14.4%
		≥2.00	33.3%	28.9%	18.9%	15.6%	3.3%
14*	Studying in a Haphazard way under the threat of the Next Exam	<2.00	6.7%	4.4%	25.6%	40.0%	23.3%
		≥2.00	28.9%	32.2%	20.0%	14.4%	4.4%
15	Participation in Study Skills Workshop	<2.00	30%	33%	14.4%	17.8%	4.4%
		≥2.00	48.8%	18.9%	7.8%	17.8%	6.7%

Note: 1=Almost Never; 2= Less than Half of the Time; 3=About Half of the Time; 4=More than Half of the Time; and 5=Almost Always; and Items with asterisk (*) would have negative implication

The data depicted on Table 11, can be grouped into four separate parts. First, the results for items 1-5 revealed that majority of less achieving female students face difficulty in concentrating at the time of study compared to high achieving female students. For instance, most of low achieving female

students were unable to let themselves intended to study whereas 67.8% of high achieving female students let themselves to study when they tend to study at least more than half of the time. Similarly, majority of low achieving female students did not find some way to learn or study a material when the material seemed to be naturally uninteresting; forgot to bring all study equipments to the study place; faced problems in following definite study schedules; and lacked concentration at the time of studying a material compared to high achieving female students. Johnson clearly showed the consequence of lack of concentration as major problem for academic success of students. "Mind wandering" is a serious problem because it eats up study hours with nonproductive daydreaming, worrying, fantasizing, or reliving recent experiences such as data conversation (as cited in Wubetie, 2007: 28). Thus lack of concentration was one of the major causes for low academic success of female students in AMU. The possible causes may include, interference of male students, daydreaming, and inadequate supply of facilities and services in the university.

Second, low achieving and high achieving female students differed greatly in the way they retain information. For instance, the responses for the items from 6 to 9, the largest percentage of low achieving female students was concentrated in the rating scales of either 'Almost Never' or 'Less than Half of the Time'. Opposed to this, the largest percentage of high achieving female students rated either 'Almost Always' or 'More than Half of the Time'. This indicated that, majority of low achieving female students employ less effective and less efficient memory techniques compared to high achieving female students in AMU. Most of low achieving female students fail in their academic program than succeed because they did not review their study materials and lecture notes within the shortest period of time available; they did not use visuals like mind maps, sketches, diagrams and the like on their study materials; they did not want to study in groups; and most of them failed to use mnemonics to remember long words, phrases, sentences and paragraphs. Therefore, most of female students in AMU fail to succeed in their academic programs. The possible causes for lack of effective utilization of memory retention mechanisms may include lack of knowledge about memory retention techniques, problem of arranging the reading material in some meaningful way, inability to make decision to remember study material, inability to test oneself repeatedly on the contents of studied materials and problem in allowing several senses to operate at the same time to increase the retention of knowledge and understanding obtained from reading a given material. Langan (1984:175) contended that studies have shown most people understand and retain information more effectively when several senses are involved in learning the material. He pointed out that, "Do not merely recite

the information silently to yourself, also repeat it out loud so that you can hear it and write it down so that you both see and, as it were, touch it." Because, human beings are be able to retain information about 10% of what they read, 20% of what they hear; 30% of what they see; 50% of what they see and hear; 70% of what they talk about with others; 80% what they experience personally and 95% of what they teach to others.

Thirdly, as can be seen from Table 11, low achieving and high achieving female students also differed in their preparation for tests and in their habits of taking tests. About 88% of low achieving female students responded that for at least about half of their study time, they studied in haphazard manner under the threat of the coming exam whereas form high achieving female students more than 60% reported that they studied in haphazard manner under the threat of coming exam less than half of the time. Similarly, majority of female students from lower GPA reported that they faced trouble in finishing tests on time; lose marks on exam because of careless mistakes; usually got nervous in exam rooms; and lose points on essay tests even if they knew the material very well compared to high achieving female students. This implies that most female students fail in their academic program in AMU as a result of poor preparation for tests and inability to manage themselves in exam rooms while taking examination. The possible causes include lack of effective and efficient training on: preparation for and taking tests, how to overcome stress and anxiety on academic affairs, and effective ways of developing self-concept. In addition to this, poor guidance and counseling services in the campus can be mentioned as cause for female students' failure.

Another important thing depicted on table 11, is that the participation in study skills workshop or training. 30% of low achieving female students and 48.9% of high achieving female students reported that they never participated in such training programs. While from the two groups equal percentage of students reported that they were participated more than half of the time. This implies that most of female students were not participated in the study skills training given in AMU and the training's power to discriminate between those who had taken the study skills training and who were not taken was very low this was because nearly equal percentage of female students were taken the study skills training from low achievers and high achievers even the percentage was higher for low achieving female students if 'About Half of the Time' choice involved in the comparison. Thus, the trainings provided in AMU were unable to address the problem of female students in the University. The

discussions under student related factors revealed the attainment of the second specific objective of this study.

4.3.4. The Effects of Institution Related Factors on Female Students Academic Success

The problem of female students' academic success is not only explained from student related factors alone. But there are other factors that impede their academic success- one of these is institution related factors. In this study two of most determining variables in relation to institution related factors were investigated. These were facilities and services in AMU and the instructors' attitude and their classroom behavior.

4.3.4.1. Difference between High and Low Achieving Female Students in their Response to Institution Related Factors

The result for independent sample t-test for major and minor variables under institution related factors showed that there was statistically significant difference between high achieving and low achieving female students in their mean score response for most of the variables. This showed that the provision of facilities and services in AMU and instructors attitude toward female students had impact on female students' academic success. Therefore, these two variables exerted a lot of pressure on the academic success of female students in AMU. However, for instructors' classroom behavior, no significant difference observed between the two groups at the 0.05 level (2-tailed). This showed that the mean score of the respondents for instructors' classroom items for low achieving groups and high achieving groups did not show considerable discrepancy. Both group rated more or less the same choice for similar items. This implies that the effect of instructors' classroom behavior on female students' academic success was smaller than the other two variables in institution related factors. Here, it is necessary to note that the interpretation of the effect of instructors' classroom behavior would not be left for the t-statistics value only. Further, cross tabular analysis and regression analysis conducted to identify the effect size of this variable (for more information on the statistics of t-test, you may consult Appendix 'H').

4.3.4.2. Combined and Relative Effects of Facilities and Service and Instructors Related Factors on Female Students' GPA

Table 12: Regression Analyses for Facilities and Service and Instructors' Related Factors and GPA (N=180)

A

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.880	.118		7.47	.000					
	IN_TRRF [b]	.525	.043	.675	12.2	.000	.675	.675	.675	1.000	1.0
2	(Constant)	.646	.162		3.98	.000					
	IN_TRRF [b]	.466	.051	.599	9.09	.000	.675	.564	.498	.692	1.4
	FS [c]	.153	.074	.137	2.08	.039	.469	.154	.114	.692	1.4

a. Dependent Variable: GPA

b. Institution Related Factors

c. Facilities and Services

B

Model Summary [c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.675[a]	.455	.452	.44727	.455	148.831	1	178	.000
2	.684[b]	.468	.462	.44317	.013	4.307	1	177	.039

a. Predictors: (Constant), IN_TRRF (Instructors' Related Factors)

b. Predictors: (Constant), IN_TRRF (Instructors' Related Factors), FS (Services and Facilities in AMU)

c. Dependent Variable: GPA

$P<0.05$

As it is depicted on the Table 12 (A) the t value for Instructors' Related Factors (9.09) was much higher than the t-value for Facilities and Services (2.08). This indicated that instructors' related factors were more significant in determining the female students cumulative GPA than facilities and service in AMU. Similarly, Table 12 (B) indicated that the institution related factors explained 46.8% of the variance proportion on female students' cumulative GPA. Thus the combined effect of instructors' related factors and facilities and services on female students' academic success was moderate one. When individual factor's contribution observed, instructors' related factors were accounted to 45.5% of the variance proportion on female students cumulative GPA in AMU whereas facilities and services explained 1.3% on female students cumulative GPA. The implication of this is that the problem of low academic success of female students in AMU was by large attributed to the instructors' attitude

toward female students and their classroom behavior than the availability and adequacy of facilities and services in AMU. Therefore, instructors, related factors impose substantial adverse effect on female students' academic success than facilities and services did. However, the independent sample t-test result and the cross tabular analysis showed that both instructors' related factors and facilities and services in AMU had considerable effect on academic success of female students in AMU. The finding is supported by Salili (1996:60) reported that there is a positive relationship between underachievement and poor school conditions. The cross tabular analyses for both instructors' related factors and services and facilities in AMU were presented in the following two tables.

As can be seen from table 13 below, female student respondents dissatisfied with a number of facilities and services in AMU. One of the areas the respondents unanimously identified as a problem was the problem of space to accommodate. For instance, for the statement "Adequacy of Space in the Classrooms" 25% of the respondents strongly disagreed and 27.8% disagreed; while 13.9% and 9.4% of respondents agreed and strongly agreed that classrooms had adequate space to accommodate students. In general, slightly more than half of the respondents (52.8%) reported that classrooms lack space to accommodate students, contrary to these 23.3% agreed that classrooms had adequate space to accommodate students. Similarly, the greater percentage of students (47.7%) disagreed with the adequacy of space to accommodate students in libraries. The same is true for facilities like student cafeteria and female students' dormitory. The second problem that many female students mentioned was the problem of suffocation. For the statement "sufficiently ventilated" out of the total respondents 47.8% were disagreed on sufficient ventilation in student cafeteria, 56.7% respondents on females' dormitory, and 57.8% on classrooms. This indicates that the classrooms, student cafeteria and dormitories were not sufficiently ventilated. Lack of space to accommodate students together with high temperature in the area can cause tremendous effect on students learning, studying and doing academic tasks. Thirdly, shortage of water supply in females' dormitory, lack of adequate space to wash clothes and inadequacy of bathrooms were other areas most female students tried to indicate as problems. For instance, for the statement "adequate water supply in dormitories 61.1% of the respondents disagreed. Only 21.1% responded that they agreed with the statement. Similarly, 74.4% of respondents disagreed with the statement "adequate space to wash clothes". The same was true for adequacy of bathrooms. This implies that female students frequently face shortage of water supply. And in times water was available the inadequacy of bathrooms and lack of washing bowls affected their efficient and effective utilization of precious resource- time.

4.3.4.3. Cross Tabular Analysis for Some of Institution Related Items

Table 13: Cross Tabular Analysis for Some of Items from Facilities and Services in AMU (N=180)

No	Item	Count	SD A	DA	Und	A	SA
1	Adequacy of space in the classrooms	Count	45	50	43	25	17
		%	25	27.8	23.9	13.9	9.4
2	Sufficiently ventilated classrooms	Count	48	56	35	28	13
		%	26.7	31.1	19.4	15.6	7.2
3	Adequate classroom facilities (chairs, tables, white & blackboards, electric connections)	Count	49	52	22	33	24
		%	27.2	28.9	12.2	18.3	13.3
4	Polite service providers in students' cafeteria	Count	41	53	38	36	12
		%	22.8	29.4	21.1	20.0	6.7
6	Sufficient ventilation in dormitories	Count	68	40	22	33	17
		%	37.8	22.2	12.2	18.3	9.4
7	Polite and approachable proctors	Count	56	34	37	32	21
		%	31.1	18.9	20.6	17.8	11.7
8	Adequate water supply	Count	62	48	32	26	12
		%	34.4	26.7	17.8	14.4	6.7
9	Adequate space to wash clothes	Count	80	54	22	19	5
		%	44.4	30.0	12.2	10.6	2.8
10	Getting clinic service on time	Count	81	56	20	14	9
		%	45.0	31.1	11.1	7.8	5.0
11	The professionals in clinic are polite to girls	Count	94	42	27	13	4
		%	52.2	423.3	15.0	7.2	2.2
12	Adequate number of professionals in the clinic	Count	90	49	19	17	5
		%	50.0	27.2	10.6	9.4	2.8
13	Sufficiently ventilated cafeteria room	Count	38	48	34	48	12
		%	21.1	26.7	18.9	26.7	6.7
14	Adequate space in libraries to accommodate	Count	42	44	32	36	26
		%	23.3	24.4	17.8	20.0	14.4
15*	Male students distract attention in libraries	Count	12	19	32	84	33
		%	6.7	10.6	17.8	46.7	18.3
16	Sufficient reference materials to read	Count	41	102	24	13	0
		%	22.8	56.7	13.3	7.2	0
17	Librarians are polite to female students	Count	47	58	34	28	13
		%	26.3	32	18.9	15.4	7.2
18	Good guidance and counseling service	Count	12	110	41	10	7
		%	6.7	61.1	22.8	5.6	3.9
19	Adequately equipped laboratories	Count	29	41	6	14	15
		%	27.6	39	5.7	13.4	14
20	Lab technicians are polite and eager to provide support for female students	Count	35	27	6	24	13
		%	33.4	25.7	5.7	22.8	12.3

Note: SDA= Strongly Disagree; DA=Disagree; Und=Undecided; A=Agree; SA=Strongly Agree

The other area of concern depicted on Table 13 was the loutish approach of the service providers at the time of service provision. For the statements that asked politeness and approachability of the service providers, more than 50% of female students responded disagreement. As it is depicted, service providers in clinic, library, laboratories and student cafeteria rated as impolite by majority of respondents. Similarly, 50 % of the respondents disagreed to the statement "Proctors are polite and approachable" whereas only 29.5% of respondents agreed to it. 65% of respondents agreed that male students were unsettling female students while studying in the libraries. From student respondents 79.5% showed disagreement to the statement stated on the sufficiency and availability of reading and appropriate reference materials. The result was in line with the earlier study conducted by Chombe (2005). He reported that facilities and services in AMU were in short of supply. Therefore, inadequacy of facilities imposed considerable effect on female students' academic success in AMU.

From logical point of consideration, inadequacy of space and other materials in classrooms, student cafeteria, and libraries severely affect female students' academic success than male students. This is because most male students are physically stronger than majority of female students, thus male students be able to use the available scant resources by getting them first. From female students those with boyfriends in that specific service time may get space like chairs, tables and so on. But the rest face difficulty which impede academic success of female students. The combined effect of these facilities and services related factors can be considered as one of the factors pushing female students to the academically unsuccessful angle of the play. It is clear that girls that lack water to wash or bath regularly, come to classroom which is small enough to accommodate all students and highly suffocated because of high temperature in the area and lack of artificial ventilators, and sitting closely with male counter parts who always search for faults to humiliate and discourage female students it is very difficult for female students to give full attention to what the instructors are saying. The impolite nature of service providers is also another hardship for female students than male students. This is because in order to get the necessary services female students must be look attractive, sociable and eager to positively respond to the needs of the service providers. This situation turns female students to involve in unwanted relationship with such people which finally end up with adverse effects on the female students' academic success and in all their life here after. Thus inadequacy of facilities and services imposed substantial effect on female students' academic success in AMU.

Table 14: Cross Tabulation for some of Items from Instructors' Related Factors (N=180)

No	Items	Group	SDA		DA		Und		A		SA	
			C	%	C	%	C	%	C	%	C	%
1	Instructors Believe that Male Students are Academically better than Female Students	<2.00	3	1.7	10	5.6	15	8.3	32	17.8	30	16.7
		≥2.00	20	11.1	24	13.3	17	9.4	26	14.4	3	1.7
		Total	23	12.8	34	18.9	32	17.7	58	32.2	33	18.3
2	Most Instructors Intend to be Involved in Personal Relationship	<2.00	0	.0	8	4.4	15	8.3	35	19.4	32	17.8
		≥2.00	6	7.2	5	23.3	24	13.3	42	22.8	13	3.3
		Total	6	3.3	13	7.2	39	21.7	77	43.2	45	21.1
3	Almost all of the Instructors are Male make Interaction Difficult	<2.00	4	2.2	4	2.2	7	3.9	17	9.4	58	32.2
		≥2.00	3	1.7	0	.0	3	1.7	26	14.4	58	32.2
		Total	7	3.9	4	2.2	10	5.6	43	23.9	116	64.4
4	Instructors Lack Clarity in Classroom Presentation	<2.00	6	3.3	11	6.1	15	8.3	35	19.4	23	12.8
		≥2.00	17	9.4	16	8.9	22	12.2	30	16.7	5	2.8
		Total	23	12.8	27	15.0	37	20.6	65	36.1	28	15.6
5	Instructors Lack Adequate Preparation before Coming to Class to Lecture	<2.00	8	4.4	15	8.3	9	5.0	34	18.9	24	13.3
		≥2.00	11	6.1	20	11.1	18	10.0	24	13.3	17	9.4
		Total	19	10.6	35	19.4	27	15.0	58	32.2	41	22.8
6	Most Instructors Care for Female Students Academic Success	<2.00	14	5.6	21	11.7	10	7.8	26	14.4	19	10.6
		≥2.00	27	15.0	30	16.7	13	7.2	16	8.9	4	2.2
		Total	41	22.8	51	28.3	23	12.8	42	23.3	23	12.8

Note: SDA= Strongly Disagree; DA=Disagree; Und=Undecided; A=Agree; SA=Strongly Agree

As can be seen from table 14, most instructors failed to fulfill the necessary criteria for female students' academic success. For instance, for the item "Instructors believe that male students are academically better than female students", 51.1% of female student respondents agreed; 17.5% held neutral position; and the remaining 31.4 % of the respondents disagreed to the statement. Similarly, the information obtained from the academic staff respondents supports the idea that instructors believe that male students outperform than female students in AMU. Out of 36 academic staff respondents, 29 (80.5) reported that male students scored better grades than female students in the course/s they were giving. For the item "which sex scores lower grades in the courses you were giving?" 32 (88.8%) selected female and the remaining 4 (11.2%) identified both sexes score lower grades. Supportive findings were found in many studies, for instance, Swilla (1992:64) found that some teachers claim that girls are less intelligent and work less than boys. The effects of such beliefs

are extremely insidious. Teachers who believe girls are not intelligent may be content to do as little as possible when teaching female students. In addition, such teachers may transfer some of their prejudices to the students of both sexes as well as to other teachers. Similarly, Odanga and Henveld reported that studies in African schools revealed that both male and female instructors believe that boys are academically better than girls (as cited in Desalegn, 2006:42). This implies that first, if instructors believe that female students' academic potential is lower than that of male students, the instructors do not work to improve female students' academic performance because they think that whatever support they provide do not improve female students' academic ability which was given or inherited from their parents. Second, if female students knew that they were seen as academically inefficient compared to male students they tend to be less motivated, have low academic self-confidence, and prefer to withdraw from effective participation in the academic tasks within the classroom or outside the classroom. Therefore, instructors' negative attitude toward the academic potential of female students was one of the critical factors debilitating female students' academic success in AMU.

As can be seen from Table 14, for the statement "most of the instructors were intended to involve in personal relationship with female students" 21% of the respondents were strongly agreed; 43.2% were agreed; total agreement to the statement was 61.2%. Only 10.5% of the respondents disagreed to the statement. Regarding this, 8 (22.3%) of academic staff respondents mentioned the problem as a hitch from the side of instructors. However, 6 of these 8 instructors warned that such type of problem is very sever and should be addressed in a great caution. In addition to this, the academic staff respondents reported that getting the necessary evidence also difficult in such condition. This implies that female students in AMU were vulnerable to unwanted sexual practices with their instructors. If they refuse such questions the instructors may give lower grades and as a result the academic failure of the female students increased. From another angle, most of female students in AMU were unable to give full attention in their classroom learning if most of instructors wanted female students for unwanted sexual relationship as a result of either good or bad feelings the female students experience when such instructors lecture in classrooms.

Another important aspect depicted on Table 14 is the issue of absence of female instructors. 98.3% of the respondents reported that most of the instructors in AMU were male. The availability of female instructors is one of the preconditions for female students' academic success. However the situation

in AMU was opposite to this principle. Thus inability to see role model female instructors in most of study programs in AMU and inability to get academic and personal support from female instructors in AMU was one of crucial factors contributed to academic failure of female students in the university. The remaining three items in table 20 were highly interrelated. As it is depicted on the table, most female student respondents reported that instructors lack clarity in classroom lecturing and most of the instructors lack adequate preparation before lecturing in the class. Despite lack of clarity in lecturing and absence of effective preparation for teaching, most female students agreed that instructors were not caring for the academic success of female students. Some of the students added additional ideas which were not stated at the beginning of this questionnaire. For instance, 30 (16.7%) of the respondents wrote statements related to expatriates especially from the faculty of Business and Economics from the point of communication. According to these female student respondents, it was very difficult to hear what the expatriate instructors were saying and again it was difficult to tell them the problems female students were facing as a result of the communication barrier between these instructors and female students. Therefore, in such faculties in which expatriate instructors dominate communication barrier might be one of the factors pushing female students to the academically unsuccessful side of the play. Similarly, 75 (41.7%) of the student respondents wrote on the space provided as "if other, please specify" issues related to lack of experience, age, and educational level of the instructors as problematic for female students' academic success. Concerning the age of the instructors more than half of the instructors in AMU was below 27. And majority from these were even below 25 years of age- the age similar to female students. Regarding experience of instructors, more than 50% of the instructors had the experience year of below three and majority of the instructors were first degree holders. The implication of this may be the age of the instructors may push those younger instructors to ask female students for unwanted personal relationship; lack of experience may limit the instructors' ability to explain things clearly and interestingly for students; and low qualification from the side of instructors may limit their subject matter knowledge. Therefore, from instructors' side, lack of clarity, lack of preparation for class lecture, few years of experience, low qualification, intention to be involved in an unwanted personal relationship with female students and having negative attitude toward the academic potential of female students imposed substantial limitation on the academic success rate of female students in AMU. Cottrell (2001) contended that lecturers can have an impact on their students learning by the way that they manage the learning environment. "What we do as lecturers, the type of assessment we set, the timing of assignments, the way we mark and offer feedback, the way we present information, the way we address students, the

way we oriented students in to learning, the way we design our courses." All this and more can harness the natural propensity of our students to learn. Conversely, we can further entrench our students' previously acquired inhibitions. We can even establish inhibition to learning in those who have always been successful before they reached us. The finding of this study revealed that some of the characteristics of instructors in AMU deviate from the characteristics of 'good' instructors forwarded by Goodwin and Steven (1993:66). The analyses and discussions under institution related factors pronounced the successfully attainment of the third objective of the study.

4.3.5. The Effects of Socioeconomic Factors on Female Students' Academic Success

The independent sample t-test showed that there was statistically significant difference observed between high achieving and low achieving female students in AMU concerning their mean score to socioeconomic factors (for more information on the test statistics you may consult Appendix 'H'). This implies that most of female students in lower GPA range were mainly from low socioeconomic status and most of those having higher CGPA were from better socioeconomic families. As a result of low income and low educational attainment of the parents' of some of female respondents, parents were unable to provide adequate financial and moral support for their daughters. Thus female students from low socioeconomic background perform less effectively than those from high socioeconomic families.

4.3.5.1. Combined and Relative Effects of Parents' Education and Parents' Income on GPA

Table 15: Regression Analysis for Parents' Education and Parents' Income and GPA (N=180)

Model Summary [c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.587[a]	.345	.341	.49059	.345	93.659	1	178	.000
2	.610[b]	.373	.366	.48138	.028	7.871	1	177	.006

a. Predictors: (Constant), PI (Income of Parents)

b. Predictors: (Constant), PI (Income of Parents), PE (Educational Background of Parents)

c. Dependent Variable: GPA

$P<0.05$

As it is depicted on Table 15, the combined effect of parents' educational and income status accounted for 37.3% of variation on female students' academic success in AMU when other variables held constant. Out of this, parents income explained 34.5% of the variance proportion on female students cumulative GPA in AMU. And the remaining 2.8% explained by parents' educational status. Thus parents' educational and income status had considerable effect on the academic success of female students in AMU. However, income of the parents found to be major predictor of the academic success of female students in AMU than the educational background of the parents. This finding was supported by and also contradicted with some of earlier studies.

The findings of this study seem to contradict with an earlier finding reported by Aemero (2005). Aemero (2005) found that 79% of students' academic achievement was explained by parents' educational background. He also reported that from any family background variables educational status of parents was a major predictor of students' academic achievement. However, in this study parents' educational status was able to explain much lower variance proportion (2.8%) than the variance proportion explained by income (34.5%) opposed to the result obtained by Aemero. Logically, the inconsistency can be explained from the point that, Aemero's study was conducted at high school level in which parents had direct involvement on their children's education. In such environment the educated parents could help their children by doing homework, assignments, by

tutoring children at their home and indirectly through their commitment for academic tasks. The degree of assistance increases with increased level of parents education because a parent with primary education may not provide much support for his/her children at high school level beyond employing tutor, but a parent with high school education may assist the children personally as well as through tutors and parent with more education may provide more help. This argument was supported by, Stevenson and Baker they found that the relation between parent education and school performance was mediated almost entirely by parents' level of involvement (as cited in Admasu, 2004). Thus in this context the Aemero's finding might be acceptable. However, at tertiary level such direct involvement of parents or guardians on their children's education was very rare because most of the time students go far from their parents for tertiary education, even if they contact every day the field of studies of the parents and their children may much in very rare cases, third parents with tertiary education may have little time to help their children from their own work condition and finally, the students also may not expect parents help as they were in lower level of educational ladder, because now they are ' university students' thus the parent education may play smaller role at tertiary level.

Concerning the income of the parents, in this study parents' income outweighed parents' educational status in explaining the variance proportion in female students' GPA. This was because female students at tertiary level need money for various purposes and those parents with better income may satisfy their daughters' desire and by that their daughters entirely focus on their education than searching mechanisms to get money and the final result would be academic success. Supportive evidence found in the work of Hedija (2002), she reported that financial problems were the major factors affecting female students' achievement. She also showed that female students at tertiary level need money for various purposes in addition to academic tasks. If they were unable to get the amount of money they expect from their parents or guardians, they attempt other wrong ways to get money to satisfy their financial need; this way may greatly affect their study time, class attendance and finally it result in low GPA.

Further analysis on mothers' and fathers' sub-level showed that the income and education status of mothers' had appeared to be a significant predictor of female students cumulative GPA. The result is supported by King and Hill (1993:113) as evidences from a number of African countries like Ghana and Tanzania indicates that women bar a large part of the burden of educating their children. A mother' ability to pay school fees and to provide encouragement to her children to continue attending school is an important factor in explaining enrollment, attendance and performance. The implication

of all these is that for most female students in AMU the actual moral and financial support provided by their parents might be in short of expected one. Thus majority of female students from lower socioeconomic background forced to divert their attention away from their academic activities in order to make some money to satisfy their financial and social dimension of their life. Finally, the little attention given for the academic tasks like poor time management, lack of effective preparation for exams may lead female students to fail in their academic program. Therefore, socioeconomic factors had also significant effect on female students' academic success in AMU. By this the fourth objective of the study was successfully attained.

4.4. The Relative Effect of Student, Institution and Socioeconomic Factors on Female Students Cumulative GPA

The relative effect was analyzed from two perspectives. Variable level analysis conducted first and followed by factor level analysis.

Table 16: Comparison among Variables

No	Variable Name	Point of Comparison				F Change	Sum	Rank
		R Square Change	T Value	*Variance Proportion	**Significance of t Statistics			
1	Study Skills	.604	16.46	39.46	.000	270.964	327.489	1
2	Academic Self-Concept	.421	11.45	27.738	.000	131.16	170.771	4
3	Academic Achievement Motivation	.452	12.12	29.568	.000	146.959	189.102	3
4	Facilities and Services	.220	7.092	14.403	.000	50.29	72.005	7
5	Instructors' Related Factors	.455	12.20	29.773	.000	191.259	191.259	2
6	Parents' Education	.283	8.384	18.511	.000	70.297	97.475	6
7	Parents' Income	.345	9.678	22.542	.000	93.659	126.224	5

*The Sum of Squares for Regression Output; **Significance Level for both T and F Statistics

As it is depicted on table 16, the sum value for study skills took the first position, followed by instructors' related factors, academic achievement motivation, academic self-concept, parents income, parents' educational status and finally by facilities and services. This indicated that the effect of study skills on female students' academic success was the most significant one and that of facilities and services was the most insignificant one. The effect size of other variables descended as it is depicted on the rank column of Table 16. Therefore, from the variables involved in this study, the academic success of female students in AMU was greatly determined by study skills, instructors' related factors, academic achievement motivation, academic self-concept, and parents' income. The impact of parents' educational status and facilities and services in AMU found to be smaller compared to other variables involved in this study. Even from the five variables considered to exert significant effect on female students' academic success in AMU, the first two variables-study skills and instructors' related factors held the major effect. This implies that the two most dominant variables in determining female students' academic success in AMU were study skills and instructors' related factors. Therefore, most female students were unable to succeed in AMU because of dependence on inappropriate study skills and instructors' negative attitude toward the academic ability of female students and instructors' ineffective classroom behavior. Study skills and instructors' attitude toward female students and the instructors' classroom inefficiency and ineffectiveness were the two most influential variables in determining female students' academic success in AMU. Supportive evidence regarding instructors were forwarded by, Andersonlevitt and others suggested that teachers' behavior, teaching practice and their attitude toward female students have perhaps the most significant determinants of female students academic success (as cited in Merga Feyisa, 1999: 29). Similarly, Goodwin and Stevens (1993:169) reported that instructors held the primary position for female students' academic success especially the existence of role model female instructors. Female instructors follow more interactive approach of teaching and by that they address the problems of female students. Second, female students can communicate their personal problems to female instructors than male instructors.

From another angle when the factors combined effect was measured, study skills and parents' income got the first place by explaining 66.3% of the variance proportion on female students cumulative GPA followed by study skills and academic achievement motivation (65.6%), study skills and academic self-concept (65.1), study skills and instructors related factors (64.6%), study skills and parents education (64.3%) and study skills with facilities and services. The evaluation of these variables from two perspectives revealed the importance of all the factors in determining female students' academic

success. The result was strongly supported by the finding of Hedija Mohammed (2002:14). Hedija reported that families play a great role for the successful achievement of students at all levels of education. She necessitated that financial and moral support is the most important things expected from families for female students' academic success in higher institutions. Female students at tertiary level need money for various purposes and if they are unable to get it from their parents they design a mechanism to get money from somewhere which affects their study time, concentration and class attendance and so on. Thus financial adequacies together with students' effort to succeed hold the first place in determining the academic success of female students. The World Bank (1995) also put that female students' low achievement is explained by the amount of financial capital invested upon them. When the two groups of variables combined, female students' low academic success in AMU was a function of inappropriate study skills, instructors' negative conception of the academic potential of female students and instructors' classroom inefficiency and ineffectiveness and lack of financial support from parents held the most significant share of the effect.

Table 17: Comparison among Student, Institution and Socioeconomic Factors

No	Variable Name	Point of Comparison				F Change	Sum	Rank
		R Square Change	T Value	*Variance Proportion	**Significance of t Statistics			
1	Student Related Factors	.67	15.00	43.821	.000	119.232	178.726	1
2	Institution Related Factors	.468	11.15	30.619	.039	77.951	120.193	2
3	Socioeconomic Factors	.373	7.832	24.366	.000	52.573	85.144	3

*The Sum of Squares for Regression Output; **Significance Level for both T and F Statistics

As it is depicted on Table 17, from the three factors investigated in this study, student related factors were the most determinant factor on female students' academic success in AMU. The second major factor that imposed considerable effect on female students' academic success in AMU was institution related factors. And socioeconomic factors found to be the least significant factors in determining the academic success of female students in AMU from the three factors involved in this study. The findings of this study seemed to contradict with an earlier study conducted in AMU. Chombe (2005:50) reported that the environmental and health factors as major determinants of students

achievement in AMU. As he reasoned out that the University is located in the semi-arid area of Southern part of Ethiopia; the temperature is very high (30°C to 40°C) and the students in AMU were repeatedly caught by Malaria as a result of this most students were forced to achieve lower grades and dropout their education. The problems mentioned by Chombe are still now problems in AMU. But their effect can be controlled if the institution and the students are committed to do that. The temperature can be modified by artificial ventilation, and the health problem showed inadequacy and inefficiency of the Clinic services in AMU. From another angle, as it was indicated in the findings of this study, most of the instructors and female students were not committed for the academic success of female students; in such situation even if there was adequate supply of Clinic service and comfortable temperature, academic failure is inevitable. Therefore, the major factors for low academic success of female students in AMU were student related factors followed by institution related factors and finally by socioeconomic factors rather than environmental and health factors.

4.5. Proposed Solutions

A number of solutions were proposed by both female student respondents and academic staff respondents. Out of 180 female student respondents, 171 respondents suggested different remedies to solve the problem. Even though it was difficult to list all responses given, similar or nearly similar solutions were collected and pulled together under single title. In order to catch the ideas of all or most of the respondents, frequently proposed solutions were presented in hyphenated manner and separated by semicolon under each core title of the suggested remedy. Finally, some of the proposed solutions were very deviant and personal ones that they presented under 'Deviant's' in order to show the existence of such suggested proposals (for more information you may refer to Appendix 'G').

Majority of the respondents suggested improvements in- the provision of guidance and counseling services; provision of tutorial programs; provision of training; and improvements in the supply of facilities and services as remedy for female students' academic success in AMU.

Most female student respondents necessitated change in the grading system of the university as remedy to improve low academic success of female students. They reported that the plus system of grading (A^+, A^-, B^+, B^-, C^+, and C^-...) was not introduced in the grading system of the university. The inclusion of the pluses system in the grading system of the university may benefit female students'

more than male students. This can be explained first, from the instructors' side the availability of several grading options may allow them to separate students by using pluses and minuses as indication of the performance level of the students. Otherwise, the instructors may be forced to distinguish students by letters rather than pluses and minuses. Second, from students' aspect, most of the time, the number of female students overwhelm the number of male students in the lower grade ranges, thus the introduction of pluses and minuses may help female students to obtain better grades because if the pluses and the actual grades given to male students, minuses will be kept for female students.

The majority of respondents from students and instructors were unable to see their contribution as crucial importance in improving female students' academic success in AMU. For instance, 54.6% of female students did not proposed improvement expected from the female students themselves and 64.9% of the instructors were also unable to see their part in debilitating female students academic success. Contrary to this, 95.1% of female students suggested that improvement on instructors' approach as remedy to solve the problem and 97.2% of instructors suggested improvement on female students' side as proposed solution for female students' academic success in AMU. This implies that both female students and instructors are externalizing the problem than accepting their own effect in aggravating the problem of female students' academic success. This may lead both the instructors and female students to ignore their place in improving the problem of female students' academic success.

Close look on the proposed remedies shows that some of the suggested remedies were work for both sexes rather than for female students' academic success alone. For instance, from those remedies suggested for instructors, giving fair test; preparation for class lecture and improvement on subject matter knowledge; improvement in the way they deliver the subject matter; provision of constructive and extended feedback; and commitment for their profession seemed not female specific. This can be justified from the point that even if the effect of the absence of such qualities are common to male and female students, their effect on female students' failure is more severe than their effect on male students. This is because female students' academic success is affected by many other factors which do not affect the academic success of male students. For instance, instructors do not expect male students for some 'extra personal services' as some of them expected from female students, in such conditions giving unfair test might be a pretext to win those female students who refuse such personal services. Moreover, poor communicable skills, poor subject matter knowledge, inadequate preparation for class from the instructors side had severe impact on the academic success of female students than

male students because most of female students in AMU did not study in groups, they did not compare their lecture notes with other students taking the same course, and they seldom got the scantly available reference materials in the library to refer. This implies that most of female students relay on what the instructors taught in the classrooms than other materials and books, thus if the instructors fail to present their lectures effectively and efficiently the condition was more problematic for female students than male students.

Few respondents suggested the implementation of female affirmative action to solve the academic success problem of female students. For instance, from female student respondents only 27% and from instructors 33% suggested effectuation of the female affirmative action program as remedy. This implies that either most of the respondents had no knowledge about the female affirmative action program or they thought that the strategies suggested in the female affirmative action program are inefficient or ineffective to address the problem of female students' academic success in AMU.

Finally, some of the suggested solutions by few respondents were considered as the deviant ones. But they had their own background to suggest like that in order helping female students. One of these was suggested by an instructor and he considered the existence of gender office as source for female students' low academic success, he suggested that the office should no longer be functional. The probable reason forced the instructor to suggest in that way may be as he observed, the effort of female students to succeed in the courses he is giving was lesser compared to male students and the inappropriate intervention of people working in Gender Office in supporting failed female students without identifying the causes for their failure. If that was the case, as students of able, female students are expected to actively participate in discussions and group work either in the class room or outside classrooms, develop their listening and note taking skills, test various strategies of studying and utilize the most effective strategies, knowing their primary purpose in their campus life and work effectively to attain their goal, test various ways of memory retention mechanisms and benefit the most suits to their program of study, effective management of time, and train themselves on effective preparation for tests and learn to control their feelings and emotions while taking exams. Unless female students try their best to sustain in their academic programs, the intervention of the Gender Office may not be the remedy. Therefore, further investigation is necessary to address the linkage between female students and the Gender Office in higher institutions of Ethiopia in general and in AMU in particular.

CAPTER FIVE

Summary, Conclusions, and Recommendations

5.1. Summary

The importance of women's higher education for the economic, social, political, and technological advancement of a country and for the improvements on women's themselves is unquestionable. Despite such positive outcomes of female higher education, most of female students joined higher education were unable to complete their education within the predetermined year of graduation; failed to obtain higher CGPAs at the completion of their program; withdraw before successful completion of the program; or dismissed for academic reasons; and/or lag behind from their batches. The major purpose of this study was to assess academic success gap between male and female students in AMU and by that to weigh the effects of some of the factors aggravating female students' academic failure in AMU.

Thus, the study was initiated to find answer for five basic research questions based on empirical, theoretical and logical point of stands.

1. Was there significant difference between male and female students in their academic success in Arba Minch University?
2. To what extent did student factors affect female students' academic success in Arba Minch University?
3. Did institutional factors have significant effect on female students' academic success in Arba Minch University?
4. To what extent did socioeconomic factors affect female students' academic success in Arba Minch University?
5. Which factor exerted greater pressure on female students' Academic success in Arba Minch University?

In order to provide answers for these five research questions and to attain the objectives of the study successfully, relational study design was employed, total of 216 individuals out of which 180 were female students in AMU and 36 academic staff members were selected from five faculties and 13 departments by using stratified and simple random sampling techniques. The data for the study collected from both primary and secondary sources using questionnaires and document analysis. The instruments were pilot-tested in the same university but in different departments before the full-scale utilization of the instruments for the purpose of data collection. The instruments were found to be reliable and valid as indicated by the pilot-test statistic. Seven independent and a dependent variable were the focus of the study. In order to address the objectives of the study and to provide dependable answer for the research questions, certain statistical techniques and procedures employed. Multiple and step-wise regression analysis, independent sample t-test and cross tabular analyses were conducted.

5.1.1. Summary of the Major Findings of the Study

5.1.1.1. Background Variables

From female students' background variables age and year level showed statistically significant correlation with study skills, academic self-concept and academic achievement motivation at the 0.05 level (2-tailed). From instructors background variables also qualification, age and experience seemed to aggravate female students' academic success problem in AMU.

5.1.1.2. Sex and Academic Success Gap in AMU

The result of this study showed that even though the enrollment rate of female students in AMU increased by 47% between 2003/4 and 2007/8 more than that of male students by 12%, female students were severely affected by the problem of academic failure. First, the attrition rate for female students was found to be higher than male students regardless of faculty, year level, and semester. The average attrition rate for the five faculties from 2005/6 to 2007/8 was 14.81% for female students and 4.57% for male students in AMU. Second, the percentage of female students dismissed for academic reasons was found to be higher than the percentage of male students dismissed for academic reason in AMU. The average percentage dismissal for female students was 15.06% and for male students it was

4.7%. Third, the cumulative GPA of female students was found to be lower than that of male counter parts. The percentage of female students outnumbers the percentage of male students in GPA below 2.00 whereas the percentage of male students overwhelms the percentage of female students beginning from GPA 2.51 and above. Female students outnumber male students by 17.2% in the GPA range below 2.00 whereas male students outnumbered female students by 40% in GPA category 3.00 and above. Fourth, the percentage of male students registered in Dean's List was much higher than the percentage of female students regardless of faculty, year level and semester. Finally, more female students fail to complete their program of study than male students in AMU. The data indicated that from female students joined AMU from 2003/4 to 2005/6 batches 36.51% graduated in the graduation year predetermined by the field of study from 2005/6 to 2007/8 the percentage of graduates for male students for the specified years was 72.26%. The remaining 63.49% from female students and 27.74% from male students were failed to graduate. Thus, for the research question "Was there academic success gap between male and female students in AMU?" the answer was unequivocally yes! This section also informed that one of the objectives that stated to assess the academic success gap between male and female students in AMU was successfully attained.

5.1.1.3. Effects of Student Related Factors on Female Students' Academic Success

The independent sample t-test for equality of means for student related factors revealed that there was statistically significant difference between the mean score of female students having GPA below 2.00 and those female students having GPA 2.00 and above at the 0.05 level (2-tailed). Similarly, the multiple regression analyses indicated that student related factors were explained 67% of the variance proportion on female students cumulative GPA and the step-wise regression analyses showed that out of the total variance proportion explained, study skills, academic achievement motivation and academic self-concept accounted for 60.4%, 5.2%, and 1.5% respectively. Step-Wise regression analysis for sub-variables showed that listening and note taking skills, reading strategies, time management and memory techniques had significant effect on female students' academic success. Listening and note-taking explained 42.6% of the variance proportion on female students GPA, followed by reading (study) strategy (10%), then by memory techniques (5.5%), and finally by time management (2.3%). In addition to this, the cross tabular analyses indicated that student related factor like study skills, academic self-concept and academic achievement motivation of the female students imposed considerable effect on female students' academic success in AMU. Furthermore, the cross

tabular analyses indicated that low achieving female students were employing poor listening and note taking skills, they were poor time managers, applied inappropriate study strategies, used less efficient memory retention techniques, had low academic self-concept, less motivated to do academic tasks, faced problem in preparation for and taking tests and failed to fallow regular study schedules compared to high achieving female students. Thus, the second basic question of this study answered as student related factors contributed for about 67% of the academic success problem of female students in AMU by this the second objective of the study was successfully attempted.

5.1.1.4. Effects of Institution Related Factors on Female Students' Academic Success in AMU

The independent sample t-test indicated that there was statistically significant difference between the mean score for institution related factors for female students with GPA below 2.00 and those female students having GPA 2.00 and above. In addition to this, the regression analyses indicated that institution related factors explained 46.8% of the variance proportion on female students' academic success. Out of this, 45.5% was accounted to instructors' related factors and the remaining 1.3% was explained by facilities and services in AMU. Though the percentage explained by facilities and services was small, the cross tabular analysis for some of the items under facilities and services indicated that there was shortage of space to accommodate students in classrooms, dormitories and library; severely suffocated classrooms, dormitories, libraries and students cafeterias; shortage of water supply; inadequacy of space to wash clothes; and inadequate number of bath rooms; negative attitude of service providers toward female students; poor clinic services; inadequate guidance and counseling services; poor library services; and poor student cafeteria services were mentioned as factors contributing for low success rate of female students in AMU. In the same way, cross tabular analysis was conducted for instructors' related factors. The result indicated that instructors believed that female students performed academically lower than male students; most instructors did not care for female students academic success; most instructors expected female students for unwanted personal relationships; lack of role model female instructors; some of the instructors lack clarity in classroom instruction and some of them did not adequately prepare to lecture in class; and instructors did not arrange supportive classes and specific consultation hours for female students in AMU. Thus, the effect of institution related factors on female students' academic success was significant one. The second basic question of the study and the third objective of this study was attempted in this section.

5.1.1.5. Effects of Socioeconomic Factors on Female Students' Academic Success in AMU

The independent sample t-test indicated that there was statistically significant difference between low achieving and high achieving female students regarding their mean score for socioeconomic factors. In addition, the multiple and step-wise regression analysis showed that socioeconomic factors had moderate effect on female students academic success. These analyses indicated that socioeconomic factors (parents' educational background and parents' income status) explained 37.3% of the variance proportion on female students' cumulative GPA. From these two variables, income status of the parents explained about 34.5% and parents educational background explained 2.8% of the variance proportion in female students' cumulative GPA. Moreover, from two parents, the educational and income status of mothers or female guardians found to be significant determinant of female students CGPA in AMU than fathers' or male guardians income and educational background. Therefore, socioeconomic factors specially parents' income exerted considerable limitation on female students' academic success in AMU. Thus, the fourth research question and the fourth objective of the study were successfully addressed.

5.1.1.6. Combined and Relative Effect of Factors on Female Students' Academic Success in AMU

The three factors involved in this study explained 71.3% of the variance proportion on female students' academic success in AMU. Regarding the relative effects, the results were presented from two angles. First, at variable level, the comparison was conducted in order to put the variables in the order of their effect on female students' academic success and then the comparison carried out at factor level in order to weigh the factors' relative importance in determining female students' academic success. The inter-variable comparison showed that study skills with the power of explaining 60.4% of the variance proportion on female students' cumulative GPA, having t- value 16.46 and with 39.46 sums of squares for regression output held the first position. Following study skills, instructors' related factors held the second position with 45.5% of power to explain the variance in GPA, 12.2 t-value and accounting for 29.77 of the sum of squares for regression output. Then academic achievement motivation, academic self-concept, parents' income, parents' education and facilities and services

ordered in their descending rank of effect on female students' academic success. Therefore, from variables involved in this study, study skills, instructors' attitude toward female students, instructors' classroom behavior, academic achievement motivation, academic self-concept, parents' income, parents' educational status and facilities and services in AMU exerted considerable adverse effect on female students' academic success in a descending degree of influence. The analysis of variables independently (treating each variable once at a time) showed that study skills and instructors' related factors had significant effect on female students' academic success in AMU. However, the combined analysis of two variables at a time showed that study skills and parents' income had greater pressure on female students' academic success in AMU. Therefore, female students' academic success in AMU was debilitated by the combined effect of reliance on inappropriate study skills, problems associated with the instructors and financial hardships female students face in their campus life. From the three factors, student related factor was the major determinant of female students' academic success in AMU with having 67% of the impact on female students' academic success. Institution related factors held the second position by 46.8% of impact on female students academic success and finally, the socioeconomic factors were be able to exert 37.3% of effect on female students academic success.

5.1.1.7. Proposed Solutions to Improve the Academic Success Problem of Female Students in AMU

Both female student respondents and academic staff respondents suggested that improvement in tutorial services, effectiveness and efficiency of the guidance and counseling services, provision of relevant training, supply of adequate facilities and services, and improvement from both instructors and female students themselves as remedy to improve academic success problem of female students in AMU. Some of the respondents recommended modification on grading system of the University as necessary condition to solve the problem of female students' academic success. Both female students and academic staff respondents had lower awareness on the importance of female students affirmative action program; both respondents externalized the causes of low female students academic success than admitting their part in aggravating the problem; and some of the respondents preferred tutorial programs as remedy than provision of training in order to improve female students' academic success.

5.2. Conclusions

The conclusion session of the study was devoted to present the gist of the study and by that to suggest some of controversial areas or the aspects needed further investigations for interested researcher. Thus, from the findings of the study the following conclusions and suggestions can be presented:

Even if the percentage of female students joining AMU increased by about more than 12% of the percentage increment for male students, their survival rate was very low. The attrition rate for female students was much higher than that of male students; more female students dismissed for academic reason than male students; the percentage of female students overwhelm male students in GPA category below 2.00; and the percentage of female students complete their program of study within predetermined year of completion was much lower than the percentage of male students who complete their learning within the normal timeframe. Therefore, the problem of female students' academic success is a clear and present problem in AMU. The focus of this study was the academic success of female students in which the social aspect of student success was not addressed thus future studies may work on both academic as well as social areas of student success in order to help female students and by that to increase their participation in the country's economic, social and political aspects. In addition to this, future studies may be conducted on either some of the variables not included in this study or even further studies are necessary on the variables involved in this study to obtain better results and refine the results obtained in this study.

Student related factors were the major determinants of female students' academic success in AMU. Most of female students in AMU were employing inappropriate study skills- inefficient and ineffective study strategies, inefficient memory retention mechanisms, poor in time management, poor in listening and note taking skills, face frequent problems in concentrating on their studies, poor in preparation for tests and face problem in the exam rooms, have poor academic self-concept and experience low academic achievement motivation. The blamed are not only female students but also all of the university community, the parents of the students and the society in general. The caution here is that female students' academic issue should not be left for female students alone. This was because beginning from their early ages some of female students were forced to develop an attitude that academic brilliance and superiority was given to male counter parts than females and for that at family level few hours left for female students to do their academic task if any time available. In this context, female students were unable to practice various ways of study approaches and they were

never learned to persist on academic tasks. There are a number of issues that need further investigation on this area; one of this is prioritizing the factors to determine the most influential one from the three variables. In this study, it was found that study skills employed by the female students in AMU were identified as the major determining factor of the success rate of female students while for Kifle (2004) academic achievement motivation was the major predictor of female students' achievement. Therefore, further studies are expected to address such discrepancy. Second, in this study as well as studies conducted by Mustofa (2006) and Kifle (2004) academic achievement motivation found to be important determinant of female students academic achievement and by that their success compared to female students' academic self-concept or academic self-efficacy whereas for Tadesse (2006) and Garuma (2005) academic-self concept was found to be the major predictor of academic success. Moreover, using linear discriminatory analysis, Byrne showed that academic self-concepts were more effective than was academic achievement motivation in differentiating between low-track and high-track students (as cited in Valdosta, 2004). Therefore, further studies are expected to solve such gaps.

Institution related factors were the second most crucial factors in determining the academic success of female students in AMU. From the two variables, instructors' related factors (instructors' attitude toward female students and their classroom behavior) were the major determinant of academic success of female students compared to facilities and services in AMU. The inadequacy of facilities and services and impoliteness of service providers in AMU imposed adverse effect on female students' academic success in AMU. Poor facilities and service and lack of concern from instructors aggravated the problem of low academic success of female students in the campus. Here, also future studies may focus on the relative effect of instructors' and facilities and services on students' academic success. Because this study was the first attempt to measure the effect of institution related factors on students' academic success in our campus's context using regression analyses, thus it should be refined by future studies.

The socioeconomic factors had also significant effect on female students' academic success in AMU. From socioeconomic factors, even if both parents' educational background and income status impose considerable effect on female students' academic, parents' income found to be the major determinant of female students academic success. From the two parents, mothers' educational background and mothers' income status had significant effect on female students' academic success than fathers' or

male guardians' educational level and income status. The finding of this study contradicted with the Aemero's (2005) conclusion. Thus future studies may be conducted to refine the aspect of socioeconomic variables with considerable effect on the academic success of female students in higher institutions of Ethiopia.

From the seven variables involved in the study, study skills, instructors' related factors (instructors' attitude toward female students and their classroom behavior) and financial potential of parents to support their daughters had significant effect on female students' academic success in AMU. Student related factors were the major determinants of female students academic success in AMU, followed by institution related factors and then by socioeconomic factors. In general, all the factors had considerable effect on female students' academic success but prioritizing the factors may help the individuals who want to address the problem of female students in conditions with shortage of budget or to obtain better results acting on the major factors may produce considerable improvement in the desired area of concern. Future studies are also expected to refine the findings of this study.

Providing effective and efficient training, arrangement of tutorial programs, supply of facilities and services, improvement from the side of instructors and female students themselves were some of major proposals suggested by respondents to overcome the problem of academic success of female students in AMU. Most of the respondents focused on provision of tutorial services and improvements in guidance and counseling services than provision of effective and efficient training. Here, one thing should be considered is that, even if tutorial services were suggested by almost all of the respondents as remedy to solve the problem, the student researcher saw some weak sides of providing tutorials for female students learning in AMU. First, in AMU the tutorial was provided only for first year students and it is confined to one or two courses each semester, the justification to not add some courses was lack of fund to pay for tutors. Second, the tutorial disappears after the first year- there is no continuity of the support. Third, most of the time tutors are selected from better performing male students. And finally, the tutorial program was provided on the time appropriate for the tutors than female students. The problems associated with this type of tutorial provision were numerous. Tutorial programs are short-term response for long-term problem; increase overdependence of female students on the shoulder of other people than standing on their feet; force female students to believe that they are less efficient and less effective to succeed in their learning; force other students to develop negative attitude on the female students' academic potential; in time

funds were not available there is no tutorial program and even it force some of the beneficiaries of the tutorial programs to give less attention to their formal learning in the subjects tutorials are available by thinking that they would get it at the tutorial session, thus other efficient and effective way of support should be suggested.

5.3. Recommendations

As it was clearly identified and prioritized in the study, at least 71.3% of the effect on the female students' academic success was exerted by mistreatment from the respective bodies, lack of equal access and equal opportunity in practice, and inability to work effectively to minimize the previous intentionally and/or unintentionally created discrepancies between the two sexes. Thus, problems that push female students to be academically unsuccessful are not beyond the capacity of the university if the university will be fully committed to address and solve the problems. This means that the university should go more than 'Lip Service'. As the student researcher believed the following practical recommendations may address at least three fourth of the female students' academic success problem in AMU.

These recommendations are:

1. To address the student related factors (poor study skills, low academic achievement motivation, and poor academic self-concept) provision of effective, efficient and practical will be a reliable remedy. To do a training effective, efficient and practical: Identification of the pros and cons of a training program in general, and the problems associated with the trainings provided in the university in earlier periods is necessary. To mention some of the demerits and merits of trainings, difficulty in getting well-acquainted trainer in both the art and science of training, it is time consuming compared to tutorial programs, requires more commitment from both trainees and trainer, and may take more time to see the fruits of the training compared to tutorial. However, the strong sides of provision of effective training are interesting. Some of these are training helps female students to stand on their foots than be on someone's shoulder, the skills the female students gain through training may stay with them for their whole life, effective training may solve the trainees' problem for long period of time, training is empowering female students to be self-sufficient in their academic as well as social circumstances in their campus life and the life after campus and so on. Thus the student

researcher suggests provision of training for female students in AMU to address student related factors affecting female students' academic success. Here, the caution is that the training should not be provided for the purpose of reporting to a higher official. The purpose has to be to address the problem of female students and to deracinate it forever.

In order to provide better training for female students in AMU:

- Have a trainer well-acquainted in the art and science of the training;
- Regarding some of the topics of training as identified in the finding of this study, study skills training- specifically training on effective listening and note-taking, reading strategies, time management, memory techniques, concentration, preparation for and taking exams here also the issue of test-taking anxiety and stress should be addressed; training on developing the self image of female students in AMU- self-concept, self-esteem and the like; and academic achievement motivation may be another topic for effective training;
- Allow as much as enough period of time for the training;
- More input from the female students themselves should be encouraged at the time of training;
- The students must do practical examples and if possible those female students attending the training should develop written plans for their academic and social affairs, prioritize some of their tasks and identify their primary purpose in AMU;
- The results of the training has to seen beginning from the first session of the training;
- Follow up those female students who have received the training for a given period time of to check whether they are doing as trained or not and to redirect if they are still now in a wrong direction; and
- Receive feedback from trainees for each day of the training time and few weeks after the training.

2. Provision of tutorial programs- the tutorial program the university launched was surrounded by problems. Thus the tutorial program should be :

    - Provided for all of female students in need of it;
    - Provided on the time for female students than for tutors;
    - Provided by either instructors or female students than male students;

- Continued until the female students stand by their own legs through side by side effective training;
- Included more courses than limited to a course or two courses; and
- Intended to empower female students in their academic aspects than spoon feeding.

3. Improvement in the grading system of the university. The grading system should include pluses and minuses as it is working in other higher institutions of Ethiopia. The inclusion of plus and minus system in grading may provide the instructors with several grading options to distinguish among high and low achieving students and by that it will lift up those female students who fall in lower grade levels to better grade levels.

4. 'Female Students Day' must be celebrated at least once a year. Prominent, successful and well-behaved role model female students and female instructors should be awarded, and from male students, instructors, and other male counter parts in the university community who have provided remarkable support for female students also should be recognized. This is because, even if females are the major actors in reversing the long existed trend of low perception on female students, the inclusion of male counter parts may further strengthens the effort.

5. The supply of facilities and services like water, space to wash cloth, adequate number of bath rooms, sufficient ventilation, female only reading rooms in the library, on time clinic service, effective and efficient guidance and counseling service and adequate laboratory facilities should not be compromised by any means because inadequacy of these and other facilities severely affect female students' academic success than they do on male students.

6. At country level policies and governing rules should consider female students issue at tertiary institutions as one of criteria for salary increment, educational opportunity, and promotion from one stage to the other. Similarly, inability to address the problem of female students and reluctance to provide the appropriate support for female students in higher institutions should lead someone to downgrading. And system has to be networked to dig up secrete and hidden ruthless and/or lighter crimes committed on female students and immediate measures have to be taken.

7. The university should identify female students with severe financial hardship and find a means to address the problem.

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Appendix 'A'

Addis Ababa University

School of Graduate Studies

College of Education

Department of Educational Planning and Management

A Questionnaire to be filled by Female Students in Arba Minch University

The Purpose of this questionnaire is to identify the major factors that affect female students' academic success in Arba Minch University and by that to measure the factors' relative contribution in aggravating the problem. The response you provide will be highly valuable for the successful completion of this study. Please, take a moment and read each direction at the introductory part of each sub-questionnaire before giving your response to the statements. Then, carefully read each sentence and give your response as directed by the sub-scale questionnaire. Your invaluable effort in completing the questionnaire is praised in advance.

Note that:

- Do not write your name.
- Mark your response for closed-ended questions on space provided and you may write additional ideas on the space provided at the end of each sub-scale.
- Write your response for open-ended questions on the space provided or you may write on the backside of the sheets.

Thank You

Tamirat Yigazu

1. General Information

Direction: Please, read the following questions and circle the number which best explains you or write your response on the space provided.

1) What is your age? 1. Below 16 2) 16-18 3) 19-21 4) 22-24 5) Above 24

2. Faculty 1) Institute of Water Technology 2) Engineering
3) Business and Economics 4) Applied Science
5) Education Other, please specify _____

3. What is Your Department? _____

4. Year Level: 1) 2nd 2) 3rd 3) 4th 4) 5th and above
Other, please specify _____

5. Year of enrollment 1) before 2002/3 (1996 E. C.) 2) 2003/4 (1996 E. C.)
3) 2004/5 (1997 E. C.) 4) 2005/6 (1998 E. C.)
5) 2006/7 (1999 E.C.) 6) 2007/8 (2000 E. C.)
Other, please specify_____

6. To which range of CGPA (Cumulative Grade Point Average) your CGPA belong to:

1) Below 2.00 2) 2.00-2.24 3) 2.25-2.44
4) 2.45 – 2.64 5) 2.65 – 2.99 6) 3.00 – 3.25
7) 3.26 – 3.57 8) 3.58 and above

2. Student Related Factors

2.1. Study Skills Inventory

Instruction: The following table contains statements related to your study skills. Please, read each statement and indicate how often you perform the activity expressed in the statement and then mark "X" under your choice in the space provided. Think carefully about each statement and respond as **truthfully** as you can.

Note: 1= Almost Never 2= Less than Half of the Time 3= About Half of the Time
4= More than Half of the Time 5= Almost Always

No	Study Skills	Scale				
1	**Reading or Studying Strategy**	1	2	3	4	5
1.1	I formulate questions from a chapter before I begin reading					
1.2	Before reading an assignment, I survey the headings, bold print, italics, questions, summaries, etc.					
1.3	I try to get the meanings of new terms as I encounter them the first time					
1.4*	I look for main ideas as I read					
1.5	I am able to readily identify clarifying details under each main idea					
1.6*	I read and reread a material more than ones without focusing much on understanding it					
1.7	I use a textbook study systems such as SQ3R, 3R, and Question-in-the-Margin					
1.8*	I skip over charts, graphs, and tables when I read a chapter					
1.9*	I find it difficult to know what is important in a chapter					
1.10	I take time to review a chapter right after I read it					
1.11	Before I read, I turn headings into questions so that I know what I am going to learn					
1.12*	I do not bother reading the questions at the end of the chapter before I begin reading a chapter					
1.13*	I find myself getting lost in the details of reading and have trouble identifying the main ideas					
1.14*	I rarely change my reading speed in response to the difficulty level of the section, or my familiarity with the content					

2	Time Management	1	2	3	4	5
2.1	I use a calendar book for recording daily and weekly upcoming academic and personal activities					
2.2	I use lists such as daily "to do" lists, priority lists, etc. to organize academic and personal activities					
2.3	I set up master schedule of fixed monthly activities such as work, club meetings, etc.					
2.4	I write out short- term and long- term academic goals					
2.5	I start papers and projects before they are due					
2.6	I set a regular time for studying every day					
2.7+	I do not have much luck following a definite study schedule					
2.8+	I waste time because I am not organized					
2.9	I know what time of the day I do my best studying					
2.10*	I often have trouble finding enough time to study					
2.11+	I spend too much time on some subjects and not enough on others					
2.12	I spend too much time studying for what I am learning					
2.13+	I usually spend hours cramming the night before exams					
2.14+	If I spent much time on my social activities as I want to, I do not have enough time left to study, or when I study enough, I do not have time for social life					
3	Listening and Note- Taking	1	2	3	4	5
3.1	I take notes as I read my textbook (reference material) assignments					
3.2	I take notes in lecture					
3.3	I rewrite lecture notes					
3.4	I compare notes with one or more classmates to check completeness and accuracy					
3.5+	I have difficulty determining important points in lecture					
3.6+	I do not bother taking notes on lecture					
1.7	Before class starts I review yesterdays lecture notes					
3.8*	I seldom hear a lecture that is well organized					
3.9	I try to record everything a lecturer says in lecture					

	Listening and Note- Taking Continued…	1	2	3	4	5
3.10*	I listen carefully to a lecture instead of taking notes					
1.11*	My class notes are sometimes difficult to understand later					
1.12*	I usually seem to get the wrong materials into my class notes					
3.13*	I do not review my class notes periodically throughout the semester in preparation for tests					
4	**Memory**	1	2	3	4	5
4.1	I review notes more than once or twice for exams and quizzes					
4.2	I use mnemonics (a collection of letters represent a phrase, sentence or key words or phrases represent a paragraph)					
4.3	I use visuals in my notes such as sketches, mind maps, diagrams, charts, etc.					
4.4	I quiz myself over the material that could appear on future exams and quizzes					
4.5	I convert text and lecture material into my own words					
4.6*	I try to understand material in my notes opposed to memorizing					
4.7	I try to organize main ideas and details into some logical or meaningful order					
4.8	I set aside time to review for each work every week					
4.9	Every time I study for a course, I spend some time in review					
4.10*	I have a hard time getting interested in some of my courses					
4.11*	I do not remember much of what I study					
4.12	To remember better, I check main headings and the summary before I read a chapter or article			*		
4.13*	I do not review lecture notes until the night before a test					
	Concentration	1	2	3	4	5
5.1	I study where it is quiet when trying to learn and remember something					
5.2	I study for a length of time then take a short break before returning to study					
5.3	I study in the same place					
5.4	I avoid cramming					
5.5*	I forget to have all my study equipment handy to my study place -pens, paper, calculator					

	Concentration Continued...	1	2	3	4	5
5.6	When I sit down to study, I let myself that I intend to study					
5.7	I break large tasks into smaller segments in order to complete a large assignment					
5.8*	When the subject matter is not naturally interesting, I do not find ways to learn it					
5.9*	It is difficult to pay attention in the class					
5.10	I avoid studying in the evenings as much as possible					
5.11*	I get sleepy when I study					
5.12	I focus entirely on my work when I study					
5.13	Before I begin an assignment, I estimate how long it will take me and then try to beat the clock					
5.14*	I have difficulty in concentrating when I study					
5.15*	Daydreaming interferes with my studying					
5.16*	Male students often interfere with my study					
6	**Preparing for and Taking a Test**	1	2	3	4	5
6.1	I study with a classmate or group					
6.2	When I do not understand something, I get help from classmates, tutors, instructors, etc.					
6.3*	I do not do all exercises on study materials and homework assignments					
6.4	I turn in all assignments on time					
6.5	I can easily identify what I have learned and what I have not yet learned before I take a test					
6.6	I begin studying for exams from the first week material is assigned or covered in lecture					
6.7	I keep up to date on assignments and homework					
6.8	I have taken a learning skills class or study skills workshop					
6.9*	I have trouble finishing tests on time					
6.10	Before I am answering an essay question, I organize what I am going to write					
6.11	Using lecture notes and the textbook, I can usually predict 50- 60 percent of the questions on a test*					

	Preparation for and Taking Tests	1	2	3	4	5
6.12*	I usually lose points on my exams because of careless mistakes					
6.13*	I do not do my best on tests because I am so nervous					
6.14	Before starting a test, I plan how much time to use on each section of the test					
6.15*	If I have any time left, I do not check over my test to avoid mistakes					
6.16*	I lose a lot of points on essay tests even when I know the material					
6.17*	I study enough for my test, but when I get there my mind goes blank					
6.18*	I often study in a haphazard way under the threat of the next test					

Items with an asterisk (*) are reverse scored at the time of analyses.

2.2. Academic Self-Concept Inventory

Instruction: The following table contains statements related to your academic self-concept toward your specific field of study, please, read each statement and indicate your level of agreement to the ideas expressed in the statement and then mark "X" under your choice in the space provided. Think carefully about each statement and respond as **truthfully** as you can.

Note: 1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

No	Statement	Scale				
		1	2	3	4	5
1	On the whole, I am satisfied being assigned to this field of study					
2*	At times, I think I am no good at the courses given in my field of study					
3	I feel that I have a number of good abilities to succeed in this field of study					
4	I am able to do my academic tasks as well as most students in the same field of study					
5*	I feel I do not have much to be proud of in my academic skills in this field of study					
6*	I certainly feel academic inadequacy to succeed in my field of study at times					
7	I feel that I am a student of able, at least on an equal plane with others students in my field of study					
8*	I wish I could have more confidence on myself in this field of study					
9*	All in all, I am inclined to feel that I am a failure in this field of study					
10	I take a positive attitude toward my academic success in my field of study					
11*	The field I am studying is not matched with my previous academic ability					
12*	I get lower grades in my major courses compared to my classmates					
13	I learn and understand concepts in my major courses better then other classmates					
14	I am good at almost all of the courses in my field of study					

	Academic Self-Concept Continued…	1	2	3	4	5
15*	Compared to other students in the same field of study I do not feel that I have good endurance					
16	I have been doing well in my previous years of study in this field					
17*	I fear that my grade be lower than most of my classmates as it was in previous year/s					
18	Other students in my field of study come to me to ask questions and seek explanation					
19*	Most of my classmates do not want me to include in the group when group assignments are given					
20	I intend to continue my learning in the same field of study as soon as I graduated					

Items with an asterisk (*) are reverse scored at the time of analyses.

2.3. Academic Achievement Motivation Scale

Instruction: The following table contains statements related to your academic achievement motivation. Please, read each statement and indicate your level of agreement to the idea or activity expressed in the statement and then mark "X" under your choice in the space provided. Think carefully about each statement and respond as **truthfully** as you can.

1= Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5= Strongly Agree

No	Statement	Scale				
		1	2	3	4	5
1	I like hard work because it is challenge					
2*	When I do not understanding something right away, I want the teacher to tell me the answer					
3*	Even if the instructors praise me, I cannot do my academic work strongly					
4	I ask questions in the class because I want to learn new things					
5*	I like easy work that I am sure I can do it					
6*	I like assignments which are pretty easy to do					
7	I like to figure out school assignment on my alone					
8	When I make a mistake I like to figure out the right answer by myself					
9	If I get stuck on problems I keep trying to figure out the problem on myself					
10	I like to do my school work without help					
11*	I do not do difficult school work because I have to work too hard					
12	I like to go on new work even at a more difficult level					
13	I like difficult school work because I find it more interesting					
14*	I read things because the teacher wants me to do so					

	Academic Achievement Motivation Continued…	1	2	3	4	5
15*	I do my school work because the instructors tell me to do so					
16	I work on problems because I am supposed to do so					
17	I like to work hard my education because of the reinforcement given					
18	I do my homework really hard because I really like to learn new things					
19*	I like to have the instructor that helps me with my school work					
20*	I like the instructor to help me to plan what to do next					
21	I like to ask the instructors how assignments should be done					
22*	Really I feel that I am wasting my time in schools					

Items with an asterisk (*) are reverse scored at the time of analyses

2. Institution Related

3.1. Services and Facilities

Below are statements on services and facilities in Arba Minch University. Please, read the statements carefully under each sub-scale. First, try to check whether you can respond to the statements in some of the sub-scales or not (for instance, statements on dormitory conditions can be judged by those female students living in the dormitories). And then, indicate your level of agreement with the statement provided under each sub-scale by putting **'X'** mark on the space provided.

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

No	**Physical Facilities and Services in Arba Minch University (AMU)**					
1	**Classroom or Lecture Halls**	1	2	3	4	5
1.1	Enough spaces to accommodate all students taking the course/s					
1.2[1]	I waste time by searching for chairs to sit in the classrooms					
1.3	Enough tables or desks for students					
1.4	Enough windows for natural light and ventilation					
1.5[1]	Insufficient electric light					
1.6	Sufficient electric connections or sockets					
1.7	The blackboards are large enough to allow instructors to show the steps involved in solving a given equation					
1.8[1]	The whiteboards are too small to effectively utilize them for lecture notes					
1.9	The classrooms are sufficiently ventilated					
1.10	The conditions in the classrooms facilitate my learning					
1.11[1]	The inadequacy of facilities in the classroom affect my academic work negatively					

2	**Students' Cafeteria Services**	**1**	**2**	**3**	**4**	**5**
2.1	I use students' cafeteria					
2.1+	I waste time in cafeteria as a result of lack of spaces to accommodate all students using students' cafeteria					
2.2	Enough chairs for students to sit					
2.3	Enough tables for students to put their meal					
2.4+	The cafeteria is much suffocated to eat there					
2.5	The cafeteria time is appropriate for me					
2.6	The service providers in the cafeteria are polite to female students					
2.7	Enough cafeteria equipments (like cups, plates, glasses)					
2.8+	I detest the food items served in students' cafeteria					
2.9	There is adequate water supply in the students' cafeteria					
2.10+	Most of the time I do not like to use cafeteria because of poor sanitation					
3	**Female Students' Dormitory Services**	**1**	**2**	**3**	**4**	**5**
3.1	I live in dormitory					
3.2	The distance between females' dormitory and library is fair					
3.3	Enough chairs to sit					
3.4+	I cannot do my assignments effectively in the dormitory because of lack of enough tables to use					
3.5	Enough lockers to use					
3.6	Adequate space to read					
3.7+	I waste time by searching for water because of inadequate water supply in dormitories					
3.8	Sufficient electric light					
3.9	Adequate electric connections or sockets					

	Dormitory Continued…	1	2	3	4	5
3.10[+]	Inadequate space to wash clothes					
3.11	Adequate bathrooms					
3.12	Sufficient ventilation					
3.13	Safe to live					
3.14	The proctors are approachable					
3.15	I can effectively read in my dormitory if I intend to study there					
4	**Clinic Facilities and Services**	**1**	**2**	**3**	**4**	**5**
4.1	I use clinic service					
4.2	The clinic provides its services on time					
4.3	It provides services during night time for emergency cases					
4.4	The service providers are positive toward female students					
4.5	There are adequate number of professionals to deliver the service					
4.6	It conducts laboratory tests					
5	**Library Facilities and Services**	**1**	**2**	**3**	**4**	**5**
5.1	Adequate space to accommodate all students use library					
5.2	Adequate chairs for students to sit					
5.3	Adequate tables to use					
5.4	Sufficient reference materials for courses given					
5.5[+]	Most of the time I am unable to get chairs in libraries					
5.6[+]	Male students distract my attention while studying in the libraries					
5.7[+]	The libraries are too noisy to study					
5.8[+]	The librarians are biased favoring male students					

6	**Laboratory Facilities and Services (Only those with lab courses)**	1	2	3	4	5
6.1*	Most of the time male students use the available resources					
6.2*	I forced to see than practice in Lab sessions because of inadequacy of equipments					
6.3	The laboratories are adequately equipped					
6.4	There is enough space to accommodate students in Lab sessions					
6.5*	The lab technicians are not positive towards female students					
6.6*	Lack of additional support in lab sessions negatively affect my academic performance					
8	**Guidance and Counseling Services**	1	2	3	4	5
8.1	I know that there is guidance and counseling service provided in Arba Minch University					
8.2	I have experience of using counseling services					
8.3	The guidance and counseling service is provided on time					
8.4*	Lack of guidance and counseling service negatively affect female students academic performance in AMU(Arba Minch University)					
8.5	Most female students survive in AMU because of guidance and counseling services provided					

Items with an asterisk (*) are reverse scored at the time of analyses

3.2. Instructors Related

3.2.1. Instructors Attitude toward Female Students

In the following table statement on instructors' attitude toward female students are presented. Please, read each statement and put 'X' mark on your level of agreement.

Note: 1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree

No	Instructors' Attitude toward Female Students	1	2	3	4	5
1	Believe that there is no difference between male and female students regarding their natural cognitive ability					
2*	Believe that male students are academically better than female students					
3	Positive towards female student					
4*	Negative towards female students					
5	Encourage female students to participate in classrooms and in group work					
6*	Discourage when female students participate in the classrooms.					
7*	Intend to be involved in personal relationship with female students					
8	Give equal chance for male and female students in classroom interaction					
9	Arrange specific consultation hours for female students					
10*	Do not care for female students					
11	Arrange some supportive classes for female students					
12	Give biased feedback for equal work favoring male students					
	Other please, specify _____					

Items with an asterisk (*) are reverse scored at the time of analyses.

3.2.2. Instructors and Instruction

The following table contains statements on overall aspect of instructors. Please, read the statements and decide your level of agreement with each statement and mark "X" on the on the space provided under your level of agreement.

1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree

No	Statement	Ranking scale				
		1	2	3	4	5
1	Enthusiastic about their profession (teaching)					
2	Enthusiastic about subject matter					
3	Knowledgeable about subject matter					
4	Concerned about improving students higher order thinking					
5	Concerned about students' self-esteem					
6	Encourage students interaction via small group activities					
7	Seek a variety of learning levels via exams and discussions					
8	Use a variety of visual aids					
9	Give feedback often					
10	Avoid criticism or sarcasm					
11	States clearly course (classroom objectives)					
12	Friendly and approachable					
13	Give fair tests (exams)					

	Instructors and Instruction Continued…	1	2	3	4	5
14	Use variety of teaching methods					
15*	Cut classes often and call for makeup classes					
16*	Lack effective preparation before class					
17*	Lack clarity in classroom lecturing					
18*	Entirely focus on dictation than explanation					
19	Give appropriate examples and show how complex calculations can be solved clearly					
20	Give reference books adequately available in the university library					
21	Provide handouts					
22*	Almost all of the instructors are male					
23	If other please, specify_____					

Items with an asterisk (*) are reverse scored at the time of analyses.

4. Socioeconomic Status (SES) Questionnaire

Instruction: Below are questions related to your parents or guardians. Please, indicate the alternative that you think refers to your parents by circling its corresponding number or filling the blank space.

1. Educational Status

No	Educational Status	Mother (Female Guardians)	Father (Male Guardians)
1	Illiterate		
2	Read and write		
3	Primary Education (Grade 1- 8)		
4	Secondary Education (Grade 9- 12)		
5	Grade 10 or 12 complete		
6	Certificate and college Diploma		
7	First degree BSc /BA/ and above		

2. House Condition

2.1. How many rooms does your house have including kitchen?

1) 1 2) 2-3 3) 4 and above

2.2. What is your house made of?

1) Made of grass and mud plastered.
2) Mud plastered and not cemented floor.
3) Mud plastered and covered with concrete
4) Built of bricks or stone

2.3. Is your house 1) Rental 2) Private

3. Income, Property and Occupational Status

3.1. Write the monthly salary of your parents, if they are employee of governmental or non-governmental organization. (Please write your estimate, if you don't know exactly). Father _____Mother _____

3.2. Write the number of livestock that you parents possessed on the space provided. If they don't have any, write 0.

Oxen _____ Sheep _____

Cows _____ Goats _____

Mule _____ Donkey _____

Horse _____ Beehives _____

Camel_____

Please, list of any _____

3.3. Among the list of agricultural product given below, write an estimate number in quintals that you think your parents produce annually. If they do not produce any, write 0.

Teff _____ Barley _____

Millet_____ Coffee _____

Sorghum _____ Maize _____

Beans _____ Wheat _____

Peas _____

If any other, please list and estimate _____

3.4. Circle 'a', 'b' or both according to which income grouped your parent's belongs to:

0= No income at all **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

1=No income at all **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

2 = up to 100 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

3 = 101 – 300 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

4 = 301 – 500 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

5 = 501 – 700 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

6 = 701 - 1000 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

7 = above 1000 birr **a)** Mother (Female Guardian) **b)** Father (Male Guardian)

3.5. What is your parent's (guardians) occupation? Mother_____

Father _____

3.6. Please list major properties your parent's have below (e.g. Car, video, refrigerator, a house of their own, number of livestock, grain mill, college, clinic, pharmacy, sofa set, etc.

_____

_____

_____

_____

_____

_____

_____

4. What remedies do you propose to overcome the academic success problem of female students in AMU?

Appendix 'B'

Addis Ababa University

School of Graduate Studies

College of Education

Department of Educational Planning and Management

(Policy and Planning)

A Questionnaire to be filled by Instructors in Arba Minch University

The purpose of this questionnaire is to collect information to identify the major factors that affect female students' academic success in Arba Minch University and by that to measure the factors' relative contribution in aggravating the problem. The response you provide will be highly valuable for the successful completion of this study. Please, take a moment and read each statement and give your response. Your invaluable effort in completing this questionnaire is praised in advance.

Please Note that: 1. Do not write your name;

2. Circle your response for closed-ended questions from the given alternatives;

3. Write your response for open-ended questions on the space provided and you may write any additional idea on the back side of each sheet of paper.

Thank You

Tamirat Yigazu

11. Most of the time, which group of sex scores lower grades in the course/s you are giving?

1) Males 2) Females 3) Both 4) None

12. Do you think that female students' academic performance is affected by personal, institution, and instructor related factors? 1) Yes 2) No

13. If your response for question number "11" is "Yes", please try to list the factors in light of the situation in Arba Minch University:

13.1. Student (Individual) factors:

_____

_____

_____

_____

_____

13.2. Institution related factors:

_____

_____

_____

_____

_____

13.3. Instructor Related Factors:

_____

_____

_____

_____

_____

13.4. Other factors please specify,

13. What do you suggest in order to solve the problem of female students' academic success?

14. What is expected from you to improve the problem of female students' academic success?

Appendix 'C'

Sampling Procedure for Department Selection

Faculty		No	Department	Attrition Rate						Average Attrition Rate	Rank Within the Faculty	Status
				2005/6		2006/7		2007/8				
				I	II	I	II	I	II			
Water Technology		1	Hydraulic Engineering	-	7.14	6.45	19.2	7.32	-	5.47	2	Select
		2	Irrigation Engineering	25	27.8	9.52	18.8	7.69	20	18.2	1	Select
		3	Water & Environmental Engineering	-	-	12.5	-	25	-			Pilot
		4	Meteorology Science	-	-	-	-	3.28	7.84			Pilot
Engineering		5	Civil Engineering	9.59	29.1	4.4	1.89	2.99	12	9.99	1	Select
		6	Electrical Engineering	7.27	24.6	-	3.28	19.6	1.79	9.43	2	Select
		7	Mechanical Engineering	50	16.6	-	-	-	-			Pilot
		8	Computer Science and IT	-	-	8.47	2.44	16.1	10	6.17		Pilot
		9	Architecture	-	-	-	-	-	-	-	-	×
Business and Economics		10	Accounting & Finance	3.39	22.2	29.7	64.5	23.6	30	28.9	1	Select
		11	Economics	1.92	19.2	10.8	8.33	6.59	5.17	8.67	4	Pilot
		12	Management	9.15	13.5	17.9	17.5	11.0	19.5	14.8	3	Select
		13	Applied English	11.8	12.5	18.3	20	15.7	23.4	17	2	Pilot
Applied Sciences		14	Biology Applied	5.88	6.82	23.5	14.3	14.8	25.6	15.2	2	Select
		15	Chemistry Applied	14.3	6.67	4.35	11.7	5.56	11.7	9.07	4	Pilot
		16	Mathematics Applied	30.8	8.33	-	-	20	-			×
		17	Physics Applied	-	-	-	16.1	16.6	-			×
		18	Statistics Applied	-	-	25	33.3	20.8	25	17.4	1	Select
		19	Geology Applied	-	-	16.7	40	14.8	5.88	12.9	3	Select
Education	Natural	20	Biology Education	15.2	30.4	15.4	46.3	22.6	5	22.5	1	Select
		21	Mathematics Education	-	-	18.2	40	17.6	50	20.9	2	Select
		22	Chemistry Education	26.7	-	18.6	21.4	23.1	21.7	18.6	3	Pilot
		23	Physics Education	-	-	25	-	25	-			×
	Social	24	English Education	23.5	-	25	23.3	29.5	26.8	21.4	4	×
		25	History Education	37.5	-	38	29.4	23.1	21.7	24.9	2	Select
		26	Geography Education	11.5	42.1	20.8	45.2	30.6	32.5	30.5	1	Select
		27	Business Education	7.5	26.1	27.9	22.2	25	27.3	22.6	3	Pilot

Note: Select=Departments in which the Study was Conducted; Pilot=Departments in which Pilot-Test Conducted; and '×'=Departments neither selected for Sample nor for Pilot-Test; I=Semester one and II=Semester Two.

Appendix 'D'

Sample Size by Faculty, Department, and Year Level

Faculty		Department Selected	Year II		Year III		Year IV		Total	
Name	S		F	S	F	S	F	S	F	S
WTI	18	Irrigation	7	3	1	-	8	3	16	6
		Hydraulic	11	7	12	-	6	5	29	12
Eng'g	41	Civil	24	12	14	-	19	10	57	22
		Electrical	14	8	12	-	21	11	47	19
BE	47	Acc. & Fin	18	7	15	6	-	-	33	13
		Management	40	16	46	18	-	-	86	34
App'Sc	32	Statistics	9	4	6	2	-	-	15	6
		Geology	11	5	3	1	-	-	14	6
		Biology	27	11	23	9	-	-	50	20
Edu'n	42	Geography	33	13	18	7	-	-	51	20
		History	11	4	5	2	-	-	16	6
		Biology	17	7	14	5	-	-	31	12
		Math	5	3	2	1	-	-	7	4
Total	180		227	100	171	51	54	29	452	180

Note: WTI= Water Technology Institute; Eng'g= Engineering; BE=Business and Economics; Appl'Sc. =Applied Science; Edu'n=Education; Acc. & Fin. = Accounting and Finance; F = Number of Female Students; S =Sample

Appendix 'E'

Reliability Statistics

No	Name of the Scale/ Inventory	Cronbach's Alpha	Cronbach's Based on Standardized Items	Number of Items	Number of Valid Cases
1	Student Related	.871	.871	130	76
1.1	Study Skills Inventory	.859	.861	88	76
1.1.1	Study (Reading) Strategy	.668	.687	14	76
1.1.2	Time Management	.617	.618	14	76
1.1.3	Listening & Note-Taking	.672	.684	13	76
1.1.4	Memory Techniques	.737	.743	13	76
1.1.5	Concentration	.615	.619	16	76
1.1.6	Preparation for and Test-taking	.666	.669	18	76
1.2.	Academic Self-Concept	.741	.738	20	76
1.3	Academic Achievement Motivation	.684	.685	22	76
2	Institution Related	.924	.923	96	76
2.1	Facilities and Services	.899	.894	62	76
2.2	Instructors' Related	.889	.891	34	76
2.2.1	Instructors' Attitude toward Female Students	.743	.738	12	76
2.2.2	Instructors' Classroom Behavior	.877	.878	22	76
3	Socioeconomic	.794	.746	7	76

Appendix' F'

Correlations between Independent Variables and Dependent Variable and among Independent Variables (N=180)

		GPA	SS	ASC	AAM	FS	IN_ TRRF	PE	PI	HC
Pearson Correlation	GPA	1.000	.777	.651	.672	.469	.675	.532	.587	.346
	SS	.777	1.000	.617	.640	.468	.671	.457	.481	.358
	ASC	.651	.617	1.000	.697	.560	.644	.446	.460	.193
	AAM	.672	.640	.697	1.000	.384	.665	.403	.434	.169
	FS	.469	.468	.560	.384	1.000	.555	.386	.319	.164
	IN_ TRRF	.675	.671	.644	.665	.555	1.000	.470	.453	.232
	PE	.532	.457	.446	.403	.386	.470	1.00	.704	.406
	PI	.587	.481	.460	.434	.319	.453	.704	1.00	.438
	HC	.346	.358	.193	.169	.164	.232	.406	.438	1.00
Sig. (1-tailed)	GPA	.	.000	.000	.000	.000	.000	.000	.000	.000
	SS	.000	.	.000	.000	.000	.000	.000	.000	.000
	ASC	.000	.000	.	.000	.000	.000	.000	.000	.005
	AAM	.000	.000	.000	.	.000	.000	.000	.000	.012
	FS	.000	.000	.000	.000	.	.000	.000	.000	.014
	IN_ TRRF	.000	.000	.000	.000	.000	.	.000	.000	.001
	PE	.000	.000	.000	.000	.000	.000	.	.000	.000
	PI	.000	.000	.000	.000	.000	.000	.000	.	.000
	HC	.000	.000	.005	.012	.014	.001	.000	.000	.
N	GPA	180	180	180	180	180	180	180	180	180
	SS	180	180	180	180	180	180	180	180	180
	ASC	180	180	180	180	180	180	180	180	180
	AAM	180	180	180	180	180	180	180	180	180
	FS	180	180	180	180	180	180	180	180	180
	IN_ TRRF	180	180	180	180	180	180	180	180	180
	PE	180	180	180	180	180	180	180	180	180
	PI	180	180	180	180	180	180	180	180	180
	HC	180	180	180	180	180	180	180	180	180

P<0.05

Note: SS= Study Skills; **ASC** =Academic Self-Concept; **AAM** =Academic Achievement Motivation; **FS** =Services and Facilities in AMU; **IN_R** =Instructors' Related Factors; **PE** =Educational Background of Parents; **PI** =Income of Parents; and **HC** =House Condition of Parents

Appendix 'G'

Proposed Solutions to Tackle Female Students' Low Academic Success Problem

No	Proposed Solution	Female Students		Academic Staff		Total	
		C	%	C	%	C	%
1	**Provision of Tutorial Programs** -Continuity of the tutorial until completion of the program; it should be provide by instructors, the tutorial should be provided in the weekends and two weeks left for exams; and inclusion of more subjects it was limited on two subjects	170	99.4	30	83	200	96
2	**Support from the University-** supply of sufficient and appropriate reference materials; search ways to help female students in financial hardship; give recognition for high achieving female students; improvement on grading system pluses were absent; formulate and enact strict rules on male community; adequate water supply; adequate chairs, adequate bathing rooms; adequate space to wash clothes; female only reading rooms; increase the number of female instructors and arrangement of awareness creating programs	152	92.1	21	58.3	173	83
3	**Changes Suggested for Female Students Themselves-** be self-confident; increase effort to overcome the challenge; effective and efficient management of time; clearly know their primary purpose at university; learn in a cooperative manner; and use the rights to accuse instructors, students, anyone else that tries to take them away from their way	75	45.4	35	97.2	110	53
4	**Provision of Training** - training on study skills, assertiveness, time management; all or most of the students should attend the training; the training should not be given in mid-term exam periods, adequate allocation of time for the training; and the quality of trainers	157	91.8	23	79.3	180	86

No	Proposed Solution (Continued)	Female Students		Academic Staff		Total	
		C	%	C	%	C	%
5	**Improvements Suggested for Instructors-** Approach female students in fatherly and brotherly hood- Avoid diverting the attention of female students to unwanted personal relationship; care for female students academic success; improve the negative attitude toward the academic potential of female students; give fair test; preparation for class lecture and improve subject matter knowledge; improve the way they deliver the subject matter; provide constructive and extended feedback; and commitment for their profession	163	95.3	13	36.1	176	85%
6	**Improvement on Guidance and Counseling Services-** Provision of the service for all students in need of it; employment of female counselors; it should be given by professionals or people specialized in guidance and counseling; and only employment of many counselors one person tries to help thousands of students in AMU	169	98.8	34	94.4	203	98%
7	**Effective Implementation of Female Affirmative Programs**	48	27.9	12	33.3	60	28%
8	**'Deviants' –** the gender office should be eliminated; all expatriate instructors should be substituted by local ones; all instructors with first degree stop teaching until they complete their second degrees; effort from female students' side is the only solution for their success; improve the educational quality at lower levels; no solution because females low success is natural; and so on						

Note: C= Counts; %= Percentage

Appendix 'H'

Independent Sample T-Test Statistics

Study Variables	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Student Related Factors	.096	.757	-15.3*	178	.000	-128.6	8.38	-145.2	-112.1
Study Skills	.354	.553	-15.0*	178	.000	-86.6	5.75	-97.9	-75.26
Academic Self-concept	2.876	.092	-11.2*	178	.000	-21.0	1.87	-24.7	-17.3
Academic Achievement Motivation	.160	.690	-11.8*	178	.000	-21.0	1.77	-24.5	-17.52
Reading Strategy	.450	.503	-12.0*	178	.000	-12.1	1.01	-14.1	-10.17
Time Management	1.906	.169	-12.1*	178	.000	-12.7	1.05	-14.7	-10.64
Listening and Note- Taking	1.874	.173	-14.0*	178	.000	-13.7	.978	-15.6	-11.79
Memory Techniques	.572	.451	-11.1*	178	.000	-13.1	1.17	-15.4	-10.81
Concentration	.008	.927	-11.7*	178	.000	-15.3	1.29	-17.8	-12.73
Preparation for and Taking Tests	2.522	.114	-13.7*	178	.000	-18.6	1.35	-21.3	-15.97
Institution Related Factors	1.124	.290	-10.7*	178	.000	-52.4	4.86	-62.02	-42.83
Facilities and Services	2.157	.144	-8.35*	178	.000	-22.7	2.72	-28.1	-17.36
Instructors Related Factors	.356	.552	-10.7*	178	.000	-29.6	2.77	-35.1	-24.21
Instructors' Attitude Toward Female Students	.670	.414	-10.7*	178	.000	-10.9	1.01	-12.9	-8.89
Instructors' Classroom Behavior	3.962	.048**	-9.17	172.106	.000	-18.7	2.04	-22.8	-14.7
Socioeconomic Factors	5.535	.020**	-6.71	174.02	.000	-7.17	1.06	-9.28	-5.06
Parents' Education	3.669	.057	-6.27*	178	.000	-3.18	.508	-4.19	-2.18
Parents' Income	8.619	.004**	-6.15	171.155	.000	-2.98	.485	-3.94	-2.02

***Statistically Significant at the o.o5 level (2-tailed); **the Result not Equal Variance Consulted**

Appendix 'I'

Judges Agreement Level for Items on Instructors' Attitude toward Female Students

No	Proposed Item	Judges					
		Judge 1	Judge 2	Judge 3	Judge 4	Judge 5	Average Agreement
1	Believe that there is no difference between male and female students regarding their natural cognitive ability	100%	95%	100%	90%	95%	96%
2	Believe that male students are academically better than female students	90%	95%	90%	95%	100%	94%
3	Positive towards female student	!00%	100%	100%	100%	100%	100%
4	Negative towards female students	100%	100%	100%	100%	100%	100%
5	Encourage female students to participate in classrooms and in group work	80%	70%	95%	90%	85%	84%
6	Discourage when female students participate in the classrooms.	80%	75%	80%	90%	80%	81%
7	Intend to be involved in personal relationship with female students	100%	100%	95%	95%	100%	98%
8	Give equal chance for male and female students in classroom interaction	65%	75%	80%	65%	90%	75%
9	Arrange specific consultation hours for female students	60%	65%	60%	60%	60%	61%
10	Do not care for female students	100%	100%	100%	100%	100%	100%
11	Arrange some supportive classes for female students	60%	70%	65%	55%	80%	66%
12	Give biased feedback for equal work favoring male students	70%	65%	65%	70%	75%	69%
13	Intend to call female students out of normal session to departments or office	60%	55%	50%	70%	50%	57%
14	Work to improve female students' academic success	55%	60%	60%	60%	55%	58%