RESEARCH ARTICLE

FACTORS AFFECTING ACADEMIC PERFORMANCE OF FEMALE UNIVERSITY STUDENTS

*Mulugeta Tesfay and Dawit Zekiros

Department of Economics, College of Business and Economics, Mekelle University, Ethiopia

ARTICLE INFO	ABSTRACT
	The study is focused to point out the factors affecting academic performance of female university students taking the case of Akusm University. For this purpose, the study utilized the econometric and descriptive tools to obtain the reliable estimates of the contribution of school, student and family attributes to academic success. The empirical evidence indicates that tension, distance travelled to attend college and harassment have statistically significant adverse impacts on student performance. On the contrary, the academic level of parents and the amount of fund students receive monthly have positive statistically significant effects while the effect of college admission results and family size were found to be statistically insignificant. Besides, the students indicated that the major constraints on the their academic success have been lack of adequate financial support, absence of female counselors and special tutorial programs, limited contact with University management and pervasive tension and student harassment. On the basis of these empirical findings, it may be proposed that the University should help students fill their financial gap, employ female counselors, introduce special tutorial programs, increase contact with students and reduce situations that induce tension and harassment.

INTRODUCTION

1.1. Background of the study

Engine-Demir (2009) stated that education is fundamental to all people regardless of their sex, race or economic status as it is the key to sustainable social, economic and political development. Education represents the major source of human capital development which constitutes an underlying basis up on overall socio-economic progress. Provision of education ensures the acquisition of knowledge and skills that enable individuals to raise their productivity and quality of life (Saxton, 2000). For granting the generic role of investment in education for overall progress, the benefit from such investment is especially pertinent for women in developing countries where female participation in education is characterized by low enrolment and weak academic performance. Female education yields far-reaching benefits for girls and women themselves, their families and the society's at large (King and Hill, 1993). The significant contribution of female education is reflected in the economic, cultural, social and political aspects of a country. Obanya (2005) firmly states that an educated female or women likely becomes a competent and knowledgeable mother, more productive and better paid worker, an informed citizen, a self confident individual and an informed decision maker.

*Corresponding author: Mulugeta Tesfay,
College of Business and Economics, Department of Economics, Mekelle University, Ethiopia.

Education empowers women to actively engage in the socio-political and economic life of their country. Despite the potential benefits of education for all, female education often has stronger and significant impact than that of males' (Geiger, 2002). In relation to that, the Universal Declaration of Human Rights 1948, Article 13 (1 and 2) states that development of a system of quality education at all levels shall be actively pursued. Hence, the potential benefit of female education at all levels exclusively depends on the education quality given in different levels. Rothstein (2000) argues that education is a product of formal schooling and also of communities, families and peers. A great deal of research on the determinants of educational achievement has centered on the relative effects of family, student and school characteristics. A sizable research has consistently shown that students' academic achievement is influenced by family background characteristics such as parents' level of education, parents' occupation and income, attitudes towards education, extent of guidance and counseling (Engin-Demir, 2009). The same author emphasizes certain student factors such as well-being, perception of the school environment, motivation, involvement in scholastic and co-circular activities and efforts of students, perception of students' on parental support and involvement, and locus of control in all areas to have significant effects on a students' academic achievement. Although measurements regarding the link between school issues and achievement are inconsistent, most research findings stress on teachers' quality and experience as decisive (Wobmann and West, 2006).

1.2. Statement of the problem

UNESCO (2003) emphasizes the role of education to promote the economic, social and cultural developments of societies. Several research outputs mainly focus on the stronger significance of females' education for all round progress. Female education has a direct effect on earnings, farm productivity, human fertility and intergenerational effect on child health and nutrition. Enhanced girl education leads to improved economic productivity, reduced fertility rates, lower infant and maternal mortality, and better health and nutritional status of children. It is also linked to sound management of environmental resources and poverty reduction through women employment.

The economic and social returns to education for women are deemed to be enormous (Hertz and Khandker, 1991). The direct link between investment to female education and its return becomes very much stronger with the progress in the level of female education. In order to fully realize the gain from education, the participation and quality of education at all levels has to be comprehensively augmented. The government of Ethiopia has developed and implemented various strategies and intervention programs through the gender machinery one of which is the affirmative action on enrolment requirements. Despite the several series measures to improve quality of teaching, the Ethiopian education system still faces a gender enrolment and performance gap with special relevance to higher institution education (ESPD III, 2006-11, 2005). The battle to overcome gender impediments continue unabated and female students are often likely to dropout and achieve lower grades than their male counterparts with extreme cases of drop out to exceed enrollment rate (Mengesha, 2002).

The issue of raising academic performance and maximizing the socio-economic gains from female education ultimately rests on the study of the factors affecting their educational achievement. Although varied sets of determinants are revealed by different researchers for various settings, most studies focus on the effects of family, student and school-related variables on female educational performance.

Unfortunately, little research has been done on factors affecting female students' performance in higher education in Ethiopian Universities. Hence, this study serves a great purpose in filling the gap in literature regarding female students' performance in Ethiopian Universities and provides a policy suggestion on how to help female students improve their academic performance and discharge their appropriate benefits to the overall development efforts of the country. This study then explores the situation of academic performance among female students in Aksum University and unravels the factors determining their schooling achievement thereby suggesting the ways to be pursued so as to enhance performance of female students in higher education institutions taking the case of Aksum University.

1.3. Objectives of the study

This study generally intends to examine the various family, individual and school (university) factors influencing the academic performance of female students in Aksum University.

1. Specific objectives

In particular, this study aims to achieve the following foremost objectives. It will attempt to:

- Explore the situation of female students' academic performance in Aksum University
- Establish an empirical link between female students' academic performance and factors determining it and attempt to analyze the likely statistical dependencies and
- Finally discusses the mechanisms or strategies to promote female students' educational achievement

1.4. Significance of the study

The successful completion of the study is supposed to bring about the subsequent significances. The study is supposed to enrich the body of empirical and theoretical literature on the determinants of academic performance of female university students. In addition, it is hopefully expected to assist policy makers, development planners and the higher education institutions design appropriate intervention with regard to the enhancement of female academic success. Finally, it allows the measurement and evaluation of the existing strategies on academic empowerment of female students, and provides an in depth discussion on academic performance of females for those who are in seek of information or conducting further research on it.

1.5. Scope of the study

The institutional coverage of this study is Aksum University and is concerned with exploring the factors affecting the academic performance of female students in its two campuses comprised of the six colleges with many departments during the academic year 20006 E.C.

1.6. Limitation of the study

The critical limitations of conducting this study associates to the availability of data and research fund. With regard to data, there does not exist comprehensive compiled secondary data on variables related to students' academic performance such as dismissal, warning, drop out and promotion rates for all academic years and students. Hence, this to some extent constrained detailed descriptive analysis of student academic performance. Likewise, the insufficient internal grant allotted to financing this study could not allow considering extensive data from greater number of respondents. Hence, no doubt that this study could be enhanced with wider and deeper data source and research fund.

1.7. Organization of the study

The Paper has been organized in such a manner that the first chapter presents a brief introduction of the study including the background statements, a concise statement of the problem, the major objectives of the research and a description of the research methods. Likewise, the relevant theoretical and empirical literature related to the issue at hand has been discussed in the second chapter. The third chapter presents the

discussion and analysis of the problem while the last chapter concludes the study by summarizing the paper and forwarding some relevant policy recommendations.

2.   REVIEW OF RELATED LITERATURE

2.1. Introduction

This section discusses the theoretical and empirical aspects of students' academic performance in higher education with picky emphasis on female students. Hence, an attempt has been made to review literature relevant to female education and their academic performance with a focus on factors affecting female students' academic achievement in public higher education institutions.

2.2. Definition: Academic achievement

There exist several different definitions for academic achievement. However, these fall in to two broad categories of the objective and subjective definitions of academic achievement. As part of the former category, academic achievement can be defined as "performance on task measured with comprehension, quality and accuracy of answers of tests, quality and accuracy of problem solving, frequency and quantity of desired outcome, time or rate to solution, time on task, level of reasoning and critical thinking, creativity, recall and retention, and transfer of tasks." (Cary *et al.* 2008). Besides, according to Hawis and Hawes (1982), academic achievement indicates a thriving performance in a specific subject matter. It can be represented by grades, marks and scores of descriptive natures. It may as well show the capability of students to deal with their studies and accomplish different tasks given to them in an academic year. Hence, it can e stated that the objective definition measures the degree of students' adaptation to school work and to the educational system. On the other side, as indicated in the works of Gabati, (1988), Khadivi-Zand, (1982), and Kobal and Musek (2001), academic achievement can rather be a subjective concept determined by the student's academic self-concept and attitudes of others with determinant influence on his/her achievement. Ferla, *et al.*, (2009), state that individuals' knowledge and perceptions about their academic achievements, and convictions for success measure academic success. They further argue that the subjective concept represents a more past-oriented, aggregated and relatively stable judgment about one's self-perceived ability in a particular academic domain.

2.3. Factors determining student academic attainment

The basis for any true development must commence with the development of human resources (Akanle, 2007). The development of any nation or community depends largely on the quality of education. Formal education remains the vehicle for socio-economic development and social mobilization in any society. The social and economic progress of countries is directly linked with student academic performance. Students are thus most essential asset for any educational institute. Besides, the objective of higher education is to ensure quality education and higher institutions should unravel the determinants of the schooling process and. Ali *et al.* (2009)

asserts that students' academic achievement plays an important role in producing the best quality graduates who will become great leader and manpower for the country thus responsible for the country's economic and social development. Studies that intend to identify factors that determine academic performance at various educational levels help public authorities in charge of the definition of optimal and efficient education policies. Likewise, it helps parents, students and educational institutions to improve the quality of their career options.

For those above reasons, the study of measurement of student academic performance and its determinants has received considerable attention in academic and policy researches. A lot of research has been done to unravel the factors responsible for the variations on student academic achievement at different school levels. These researches try to determine the role of study time, capacity to learn, personal background, and way of life and student environment among others on academic performance. Nonetheless, no unique set of variables have been identified as major determinants of student academic achievement. Rothstein (2000) argues that learning and thus school achievement is a product of not just formal schooling but of communities, families and peers also. Stated otherwise, social, economic and cultural forces affect student performance.

Others like Heyneman and Loxley (1983) instead focus on the dominant effect of family background while school characteristics have minimal effects. Some policy planners recommend curriculum revision and equitable and wider distribution of educational materials to be crucial inputs. However, dominant sizes of research findings reveal that a collection of student, family and school characteristics with varied degrees jointly determine the academic success of students. This section is thus devoted to the discussion of the above components of student performance.

2.3.1. Family characteristics

A great deal of research disclosed that families' background often described in their social and economic status, level of education, occupation, attitudes towards education, extent of guidance and income affects the academic success of students [Robinson, 1993; Engin-Demir, 2009]. The socioeconomic factors of parents affect the academic achievement and overall adjustment to life of children**.** The changing life pattern coupled with the present economic hardship hinders families to ensure a literate child at all levels. Family size as well affects student success through the availability of resource and attention given to children. Empirical literature shows that the parents' academic rank and earning were found to be the dominant sources of variation in the academic performance of female students. Tadesse (2009) wrote that the Third International Mathematics and Science Study Tests (TIMSS) indicated that students that belong to those families with better education and economic advantage performed better than those with lower education and earning. A study on 'socio-economic factors influencing academic performance' by Akanle (2007) in Nigeria found that insufficient family income and family type substantially affected student performance.

Moreover, according to Coleman (2006), poverty, lower parental education, parental or neighborhood's negative attitude towards education have adverse effects on academic success. In contrast, students with well-educated parents have greater access to a multitude of resources such as family structure, home environment and parent-child interaction. Hanushek (1992) also found that higher family income is associated with higher students' achievement. A study by Hijaz and Naqvi (2006) that focused on the private colleges in Pakistan observed an inverse link between family income and academic performance. Studies on the link between family size and academic achievement, by the same author above show, that less favorable child outcome to have been associated with larger family size. With increased number of children, parents will have fewer time and resource for investment on children. Tadesse (2009) as cited from Downey (1995) writes that children form large families were found to have higher rates of behavior problem and failure in education.

With regard to the determinants of academic achievement in the developing and developed world, Simmons and Alexander (1978) found basically similar results. Economic development had thus no effect on the relationship between children's social background and their academic achievement. Quite the reverse, as cited by Engin Demir (2009), a stronger link between social background and academic achievement have been found in developed nations while Jawahir (2005) found a stronger effect of school characteristics for developing countries.

Noble (2006) differently put that guidance from parents and number of negative situations in the home as well affect students' academic achievement. The students face a lot of problems in developing positive study attitudes and study habits. Guidance is of the factor through which a student can improve his study attitudes and study habits and is directly proportional to academic achievement. Students who are properly guided by their parents have performed well in exams.

2.3.2. Student characteristics

Students' characteristics encompasses variables such as students competence in English, prior college entrance exam result, students' motivation, intention and expectation, class attendance, student well-being, perception of the school environment by students, motivation, involvement in scholastic and co-curricular activities, time invested on home work and related tasks, relations with school mates and teachers, perception of students' on parental support, encouragement and involvement, the state of assertiveness in and out of class, peer pressure, homesickness, time management, and locus of control in all areas among others.

With regard to the students' competence in English, strong communication and comprehension skills and sturdy grip on English enhances the ability of students to comprehend other subject matters. Competence in English language can be reckoned as a variable indispensable to student performance. In relation to this, Harb and El-Shaarawi (2006) found that the most important factor with positive effect on students' performance is student's competence in English.

Besides, educational activities and individual endeavors occupy crucial places in augmenting academic performance. Neglecting the effect of intellect, students should spend more time on assignments; project works, home works and class that are decisive to improving performance. Several research works have found that there exist strong positive link between the time invested on homework and other related activities with student's impetus for achievement which in turn affects performance.

Moreover, the students' academic achievement is significantly affected by the perception of students on parental support, guidance and involvement. Parents may help their children experience positive emotional experiences regarding education. Engin-Demir (2009) states that students who believe that they receive adequate interest, encouragement and involvement from their parents or adopters are found to have performed better where as the opposite is true for those children of families who disregard the academic affairs of their children. However, some other group of researches has shown that there happen a negative association between educational support of parents and scholastic achievement of children.

Homesickness and time management are also closely attached to female students' educational success. Most female students leave their home for the first time and, more often than not, yearn their relatives and friends depriving them stable and well-adjusted frame of mind for proper study. Female students are often subject to relationships, as fresher or seniors, with people in or out of the campus due to repeated nags from male students, for income generation purposes and/or mostly of academic benefit (Wudu and Getahun, 2009). In this regard, Ziddy (2007) indicate that poor time management is one reason for the deterioration in student success. He adds that students are unrealistic with their time management and fall behind.

Likewise, students join higher education not only with their prior knowledge but with an accumulation of motives, intentions and expectations which will influence their learning activities also. In particular, research indicates that intrinsically motivated students are interested in their studies and seek to achieve personal goals, actively engage in learning with the intention of attaining intellectual development. In contrast, students with extrinsic motives are only focused on achieving an external goal and minimize the time and effort spent on schooling activities. Hence, intrinsic motive is required for higher order learning outcome. Similarly, realistic and well-informed expectations are desirable.

A related concern relates to the fact that there exists lack of priority that students attribute to their studies. Several studies have shown that students spend considerably less time on independent study than recommended (Taylor and Mandar, 2007). The concern is complicated when many students full time workers intend to engage on part time jobs. Hence, their lack of commitment seriously hurts the academic achievement of students. Another issue is that students' capability to adapt to university and cope with the strange setting which can be at variance to their prior educational experiences is also affected by students' expectations and preparedness for higher education (Pancer *et al*, 2004).

2.3.3. School characteristics

The last set of factors that affect the academic success of students relate to college circumstances that include such variables as class size, qualification and experience of instructors, anxiety, availability and quality of academic facilities, the absence or presence of female role model teachers, situation of training on assertiveness, university or department students' choice and placement, extent of guidance and counseling, and situation of all kinds of sexual harassment. Female students' success strongly relates to the presence or absence of role model female instructors and support staff in the University. UNESCO (2003), cited in Wudu and Getahun (2009), reveals that females' enrolment and success sturdily correlates with the presence or absence of female instructors especially in sub-Saharan Africa (UNESCO, 2003). Another crucial factor for the academic performance of female students relates to assertiveness training constituting a behavioral technique and a tool for developing necessary social skills to manage interpersonal and academic situations more effectively, and to promote themselves in the interpersonal and academic situations.

A third vital school variable is the university and department placement of students. The choice and placement of students play a key role in both succeeding in a specific field and future life aspiration and adjustment. Students' choices and placements often match with the probability of success in academics and overall attainment of life goals. Equally important, Provision of trainings, guidance and counseling services for students in many different issues like time management, study and life skills, reproductive health, entrepreneurship and leadership enhances their overall capability in academic and non-academic endeavors. Teachers' gender sensitiveness in classrooms play equivalent significant role in students learning. Female students are especially encouraged when instructors are gender sensitive and have positive attitudes towards females.

While school facilities are decisive for students' performance, measurements indicated in prior research are inconsistent. Some research found that performance improvements not to result solely from increased school resources (Hanushek and Luque, 2003) where as others argue that difference in school resources justify variations in student outcomes (Engin-Demir, 2009). With regard to developing countries, the schools resources such as facilities, student class ratio, overall qualification of instructors and instructional materials have been found to be have explained only six percent of the variation in academic achievement (Bacolod and Tobias, 2005).

Although the impacts of class size are not yet consistent, relatively abundant research has been undertaken on it among other school variables. In a nutshell, various studies carried out on different school settings indicated contradicting results that some argue presence of a negative link between class size and performance (Wobmann, 2003) and positive link by many other works. The role of student-teacher ratio, however, as stated by the same author above was almost universally found to have an insignificant role on enhancing the performance of students. The education production function as well contains the quality and commitment of instructors as one of the vital variables in determining success. Quality of instructors may include clarity of presentation, experience, variability of classroom activities, enthusiasm, and task or achievement orientation. Emotional and social skills at school favor academic achievement now and in their future career. Several researches in education focus the role of experienced and qualified instructors in improving academic success. Wobmann and West (2006) went to state to the extent that it may be a better policy to devote the limited resources available for education to employing more capable teachers rather than to reducing class sizes moving.

2.3.4. The need for enhanced female educational accomplishment

Education promotes the economic, social and cultural developments of societies. It improves the basic physical and material needs of people. The comparative significance of female education for overall progress is chiefly stronger (UNESC, 2003). Hence, an improvement in the academic attainment of female students is decisive for a nation building. Female education, at all levels, takes some step forward in terms of improving productivity, reducing fertility rates, reducing infant and maternal deaths and taking care of the health and nutrition of children. It as well ensures the effective use of the environment and its resources. Furthermore, female education is an appropriate tool for alleviating poverty through employing them or enabling them to create their own jobs.

The role of education to take part in the society and economy of the contemporary world is substantial. Education affects the income, agricultural productivity, human fertility and health and nutrition of the children. Hence, female education has a considerable benefit to countries such as Ethiopia which are striving to realize social and economic development. According to Hertz and Khandker (1991), there exist substantial economic and social returns from educating women. An educated female possesses a family with a better health, practices improved hygiene and nutrition, and her productivity both at home and work place improves. Other researches asserted that female education relates to reduced fertility rates, smaller family size, a rise in contraceptive use and delayed marriage. The link gets stronger as female's educational level and performance increases. In relation to this, a research by Schultz (1989) for different countries indicated that as the education of female increases by one year, child mortality under five years of age reduces by five to ten percent.

3. DATA AND RESEARCH METHODOLOGY

This chapter attempts to confer all details related to data and research techniques.

It discusses points related to the nature and source of data; gives the picture of the study area; discloses the sampling and data collection techniques; thrashes out the theoretical and empirical facts to the specification of the econometric model, and finally examines the method of analyzing gathered data.

3.1. Description of the study area: *Aksum university*

The Ethiopian higher education system evidently has been conservative in its academic orientation and lingered with merely moderate connection to the national development requirements. This urged the country to engage in a highly ambitious effort to transform the education system to enable it directly and intensely contribute to the economic growth and poverty alleviation strategies it intends to realize. Aksum University thus was established based on the agreed impression of considering education as a development endeavor. Aksum University was established in the regional state of Tigray, Aksum town (about 2 kilometers from the western skirt of Aksum town) roughly 1010 kilometers north of Addis Ababa; enshrining one of the most impressive archaeological and historical sites in the world including the impressive stele-Aksum Obelisk- and the Queen of Sheba's Bath which are a few of the UNESCO World Heritage sites. It lies in the corridor between Adigrat, Adwa, Shire and Humera which is predicted to be one of the main growth areas of Tigray region.

The University is set up to generate skilled and competent professionals, conduct research synergetic with national interest, and engage in productive and responsive community services. To achieve the above objectives, the university has progressively equipped itself with the required professional, financial, material, organizational and legal facilities. To mention some of the achievements, the intake capacity of regular students has increased from what it was in 1999 E.C. (741 students) to its enrollment capacity in 2006 E.C. (9964 students), and continuing education program (CEP) from 95 to over 5925 students. Likewise, the graduation of students has increased from 513 students in 2001 to 1966 students in 2006 of which 887 were females. Aksum University has thus far trained and provided the economy with 6205 students. The academic staff as well that began with 59 instructors has now reached above 789 instructors. The composition of the academic staff reveals that there exist 64 diploma holders, 140 bachelors, 337 master holders, 4 PhD holders, 16 medical doctors, 2 specialists and the balance are in study leave. This implies that close to 63.5 percent of the academic staff are second and third-degree holders. The size of administrative staff also grew from 39 to 716 workers. The number of undergraduate degree programs has increased to 36. Likewise, the University has thus far launched 4 master degree programs. The University, led by the president, is organized in to three programs or vice president offices (academic affairs, administration and student affairs, and research and development); three campuses (main campus, Shire campus and health campus and an agricultural research center in 'Selekleka'); and 10 centers, 6 colleges and 36 departments. At present, the University comprises 9664 regular students out of which 3779 are females. Close to 40 percent (3898 students) of them belong to the college of Engineering and Technology, and 21.4 percent of them (2068 students) go to natural and computational sciences. The remaining balance belongs to social sciences and humanities (930 students), business and economics (1760 students), agricultural and life sciences (577 students) and medicine and health sciences (431 students). Besides, the University contains a total of 5925 students under summer and evening programs.

3.2. Nature and source of data

Both the primary and secondary data sources are employed to gather data so as to accomplish the research objectives. The secondary data has been collected dominantly from different offices of Aksum University such as registrar, quality assurance, planning and institutional transformation centers, and to some extent, reports and statistical abstracts of MOE and MOFED have also been utilized. The primary data was as well collected through questionnaires distributed to sample female students in the main and shire campuses. Besides, focus group discussions and interviews with female students and other different concerned bodies and offices have been an indispensable source of the primary data on issues related to female students.

In particular, sample female students from the six colleges have been asked to offer both qualitative and qualitative data about the factors influencing their academic achievement using close-ended type of questions. Likewise, interviews were carried out with key informants such as instructors, gender office, quality assurance office and higher officials of the University. Moreover, focus group discussions have been utilized to complement and enrich the above instruments. Focus group discussions have been carried out by forming focus groups and raising discussion issues that enable to extract crucial points. Some of the principal data variables include Cumulative Grade point Average (CGPA), family size and income, prior academic result, family educational background, qualification of instructors, and state of anxiety and tension. Specifically, average CGPA of two semesters is taken; monthly income of a household head is considered; the university entrance exam result is taken, and family education has been taken in to account among others.

Questionnaire has been developed after reviewing a great deal of both theoretical and empirical literature on academic performance. The questionnaire is consisted of four components that include general information of respondents like college, department, current and prior academic achievement, age, distance travelled; socio-economic factors like family income and education status, and family follow up and support; school characteristics such as dormitory, cafeteria and educational facilities, harassment, study interest, and qualification of instructors; and student attributes such as attitude of respondents to family support, motivation and expectation, health status, English language skill, and the major constraints towards achieving higher grades. The detail of the components of the questionnaire can be obtained from the annex at the last pages.

3.3. Method of Data Collection

3.3.1.Sampling Technique

Out of the total students (9664) enrolled to Aksum University in six colleges till the academic year 2006 E.C., 3779 of them are female students. The distribution of female students across the six colleges shows that; the colleges of Business and Economics, Engineering and Technology, natural and computational sciences, Agriculture and Life Sciences,

Medicine and Health Sciences , social sciences and Humanities, respectively, consist of 560, 1331, 1104, 224, 109, and 451 number of students. The study takes a sample size of 5 percent of the total female student population due to apparently cost and time considerations. The distribution of sample students across colleges and departments is decided based on a stratified sampling technique that computes the proportional size of college or department students to the total female population. Accordingly, Engineering and Technology (66), natural and computational sciences (55), Medicine and Health Sciences (6), Agriculture and Life Sciences (12), Business and Economics (27) and Social Sciences and Humanities (22) students are included in the study. However, a simple random sampling is applied on departments and class years to select the required participants to be included in the study. Therefore, the study applies simple random sampling on a population stratified by college, department and class year.

3.4. Method of data analysis

The qualitative, descriptive statistical and econometric techniques of analysis have been used to assess female academic performance and empirically relate the various family socio-economic, students and school –related factors to schooling achievement of female university students with exclusive emphasis on Aksum University undergraduate students. Frequency distributions and percentages are utilized to describe the data collected from documents and the questionnaire, and information from interviews and focus group discussion have been classified and presented via narrative (qualitative) analysis. Finally, a multiple regression analysis is carried out to empirically measure the statistical significance of the various independent variables in governing student academic achievement while the correlation coefficient indicates the likely link between various variables.

3.4.1. Model specification

The key objective of the paper is to spell out the factors that determine academic performance of female university students. Hence, it is crucial to establish a conceptual framework on the possible set of dependent and independent variables.

The performance of college female students is often measured by their cumulative grade point average (CGPA). Most literatures on academic performance identify the admission points or entry qualifications; socio-economic status described with parents' income, educational and occupational status; student attributes such as health status, anxiety, harassment, perception of students on parental support; and school attributes that include teachers' qualification and experience, access to lab materials, university or department choice among others for different settings.

Despite the multiplicity of the factors affecting student academic performance, the econometric analysis considers only those variables on which ample data is supposed to be and actually was-gathered and those which are most usual in the literature. Accordingly, a dummy variable multiple regression model of the following type has been specified:

$$APr = \beta_0 + \beta_1 Ap + \beta_2 Fi + \beta_3 Fed + \beta_4 An + \beta_5 Hr + \beta_6 Tqe + \varepsilon_i$$

………equation (1)

Where:

APr = Female academic success measured by cumulative grade point average (CGPA)

AP = Admission point measured by higher institution entrance examination result

Fi = Current family income of a parent or others related to the student

Fed = Family education status proxied by the maximum education level attained by parents

An = State of anxiety indicated by vulnerability of a student to tension

Hr = Harassment indicated by the subjectivity of a female student to harassment practices

Tqe = Teacher qualification and experience measured by academic status of instructors and their years of experience

$\beta_1 \ldots\ldots \beta_6$ = Coefficients representing the marginal effect of regressors on academic performance and β_0 and ε_i, respectively, are the constant and disturbance terms.

3.4.2. Justification for the choice of variables

The econometric model specifies female students' academic performance as its dependent variable. The dependent variable has been measured as the mean cumulative grade point average of two consecutive semesters. The measurement of the dependent variables enables us to determine the statistical numerical link with its explanatory variables and the net effect of a particular intervention to improve the academic performance of female university students. Educational status of parents or guardians also constitutes one essential explanatory variable. There exist an assumption that parents with more education support and motivate their children and the children that come in to such families are expected to perform better. Students with well-educated parents have greater access to a multitude of resources such as family structure, home environment and parent-child interaction the variable is measured as average years of schooling of parents or adopters of students.

Another variable in the education production function is the quality and commitment of instructors. Quality of instructors may include clarity of presentation, experience, variability of classroom activities, enthusiasm, and task or achievement orientation. Emotional and social skills at school favor academic achievement now and in students' future career. Several researches in education focus the role of experienced and qualified instructors in improving academic success. The qualification of instructors is measured by the average work experience of instructors in a given college or department. The earning of parents and the size of families are also other sources of variation in the academic success of students. The changing life pattern coupled with the present economic hardship hinders families to ensure a literate child at all levels. Family size as well affects student success through the availability of resource and attention given to children. Empirical literature shows that the parents' earning and family size were found to be the dominant sources of variation in the

academic performance of students. These variables are measured by the average monthly earning of parents and number of family members respectively. Finally, the prior academic background measured in entrance exam result, the adaptation to college situations implied in anxiety and the state of sexual harassment have a determinant impact on the students' aptitude to face academic challenge in higher education, on students concentration on study and peace of mind respectively.

4. DISCUSSION AND ANALYSIS

Introduction

We have in the preceding sections introduced the problem, outlined the research methods, and reviewed the theoretical and empirical literature relevant to the study. It is now worth examining the situation of female academic performance in general, and determining the quantifiable contribution of the different school, student and family related determinants of student performance. Hence, this section tries to analyze the quantitative and qualitative data collected through different instruments with the help of the qualitative, descriptive and econometric techniques of analysis. The Primary and secondary data obtained from questionnaire survey and documents have been processed, summarized or/and estimated and presented followed by brief descriptions and interpretations. The qualitative data has as well been analyzed using narration.

4.1.1. Descriptive analysis

4.1.2. Pattern of Female Academic success in Aksum University: *Secondary Data Analysis*

The annual abstract on education statistics prepared by Ethiopian Federal Ministry of Education (EFMOE) reveals that the gross enrolment of undergraduate degree students on average grew by 17 percent while it was about 16 percent for females between the years 2001 and 2005. Female undergraduate enrollment accounted for approximately 21 percent of the gross enrollment on average for the same years. The graduation of undergraduate degree students on average grew by close to 12 percent while that of female students averaged close to 22 percent during those years (MOE 2005). Likewise, the enrollment of undergraduate degree students in Aksum University increased on overage by 26 percent during the stated years while the rise in graduation averaged about 43 percent. The immediate comparison of figures on the size and growth of gross enrollment and graduation of students at national or university level seemingly reveals that student academic performance has improved. However, that may not hold true due to the fact that preset schooling periods differ among various departments imposing difficulty in making a link between enrollment and graduation rates. Hence, different set of variables such as rates of dismissal, academic drop outs and withdrawals, warnings and average score pattern at various levels should instead be assessed. Despite the fact that complete and in depth time series data on such variables for all departments is not available, an attempt has been made to

examine the academic performance of females students using data obtained for some years and colleges. In particular, data on status of first, second, third and fourth year students in the academic years 2005 and 2006 is utilized.

For a multitude of reasons, the academic performance is often weaker and thus dismissal rate higher for fresh students. Hence, an attempt was made to assess the academic achievement of first year students for the academic year 2006. For the college of Natural and Computational Science, the number of dismissed female students exceeded four times that of males. The difference declines for the college of Social Sciences and languages while it is equivalent in the case of Medicine and health Sciences. Moreover, in the college of Engineering and Technology, dismissal rate doubles for females where as the opposite holds true for the College of Business and Economics. Analogously, according to the below data for two academic years and three class years (years II, III and IV), the academic achievement of female students in general can be concluded to be relatively weaker though the dismissal rate declines with class year. As indicated in Table 3.1 below, the dismissal, warning and 'Fx' rates for Natural and Computational Science have been bigger for females for all class years. Likewise, the dismissal and 'Fx' rates for social science and languages year two and three female students exceeded that of males for the academic year 2006. Furthermore, the same variables assume larger figures for females for almost all class years for the colleges of Medicine and Health sciences, Business and Economics, and Engineering and Technology. Although the average score pattern of students is crucial to understanding the relative or absolute academic performance of students during their stay in college, we could not discuss the variable due to the unavailability of adequate data on cumulative grade point average of students for some consecutive academic years. This subsection tries to describe the nature of sample data in terms of the distribution of the sample across study units, distance travelled, area of origin, age and marital status of respondents. As discussed in the third chapter and indicated in the table above, the determined sample size which is 5 percent of female student population (188 female students) has been allocated to all colleges and thus all departments according to their share in the population of female students in the University. Each share has been multiplied by the number of female students each college. Hence, many of the sample respondents go to the college of Engineering and Technology followed by Natural and Computational Science, Business and Economics, Social and Science and Languages, Agriculture and Life Sciences, and Medicine and health Sciences respectively. With regard to the marital status of the sample respondents, almost all of them are unmarried students but one. Likewise, Majority of the students included in the sample have their origin in urban areas accounting for close to 66 percent. The sample respondents traveled varied distances to attend their college education that range from the closest (Aksum Town) to the furthest (1538 Kms). The effect of such divergence on academic success will be analyzed later in this chapter. Moreover, the age of the students in the sample data ranged from the younger ones aged 20 years making up 28 percent of the total to the older group 22 years accounting for only 8 percent where as majority them belong to the age group of 21 years with a share of 77 percent.

Table 4.1. Summary of pattern of female academic performance for some years and colleges

Years	Dropout & Withdrawal	Warning	Dismissal	Fx	Total	
2006 Year II	3.7	3.13	1.04	25	32.8	Natural and Computational Science
2006 Year III	0.51	0.51	5.08	NA	6.1	
2005 Year II	1.45	0.56	1.45	7.25	10.71	Social Sciences and Language
2006 Year II	0	0	0.64	10	10.64	Medicine and Health Sciences
2005 Year III	0	3.85	0	0	3.85	
2005 Year II	0.74	0	3.45	18.4	22.59	Engineering and Technology
2005 Year III	1.72	0.86	1.72	0.86	5.16	
2005 Year IV	2.5	0	2.5	0	5	
2005 Year II	0	1.43	2.86	1.43	5.72	Business and Economics
2006 Year II	0.43	0.63	-	-	1.6	

Source: Own Computation based on Data Obtained from Central Registrar

4.2. Descriptive Primary Data Analysis

4.2.1. Nature of Sample Data

Table 4.2. Sample distribution, marital status, age, area location and distance travelled

Sample Distribution College	No.	Respondents' Marital Status, Area Location, age and Distance Travelled to Aksum							
Engineering and Technology	66	Marital Status		Area		Distance (Km)		Age	year
Business and Economics	27	Single	169	Rural	57	Lowest	5	20	28
Natural and Comput. Scien.	55	Married	1	Urban	113	Maximum	1538	21	77
Agriculture and Life science	12							22	57
Medicine & Health Sciences	6							Above	8
Social Science & Language	22								

This subsection tries to describe the nature of sample data in terms of the distribution of the sample across study units, distance travelled, and area of origin, age and marital status of respondents. As discussed in the third chapter and indicated in the table above, the determined sample size which is 5 percent of female student population (188 female students) has been allocated to all colleges and thus all departments according to their share in the population of female students in the University. Each share has been multiplied by the number of female students each college. Hence, many of the sample respondents go to the college of Engineering and Technology followed by Natural and Computational Science, Business and Economics, Social and Science and Languages, Agriculture and Life Sciences,   and Medicine and health Sciences respectively. With regard to the marital status of the sample respondents, almost all of them are unmarried students but one. Likewise, Majority of the students included in the sample have their origin in urban areas accounting for close to 66 percent. The sample respondents traveled varied distances to attend their college education that range from the closest (Aksum Town) to the furthest (1538 kms). The effect of such divergence on academic success will be analyzed later in this chapter. Moreover, the age of the students in the sample data ranged from the younger ones aged 20 years making up 28

percent of the total to the older group 22 years accounting for only 8 percent where as majority them belong to the age group of 21 years with a share of 77 percent.

4.2.2.Analysis of Student Characteristics

With regard to student attributes, the variables incorporated in the questionnaire survey include   prior college entrance exam result, student's pre-college role in family, perception about themselves and their performance, motivation and expectation, student well-being, relations with school mates and teachers, and perception of students' on parental support. In the paragraphs below, we discuss the data on these variables. When we observe the link between prior academic attainment and the current performance of students, we vividly realize that the current average Cumulative Grade Point Average (CGPA) of five academic semesters increases with college entrance exam result. There exists a strong positive correlation between CGPA and university entrance exam result. This shows that students with better academic backdrop and thus higher results tend to attain higher grades in colleges.

Likewise, it is possible to assess the extent of student involvement in family matters and its link with students' academic score. Hence, the data shows that both prior academic result and current performance do not inversely relate

to extent of student involvement in family activities. Students with greater scores in entrance exams and during their stay in campus instead are those who have been heavily involved in the in-house works, family business or in both house and farm activities. 64 percent of the higher score achievers in the sample data were highly involved in house, business or house and farm activities while only 36 percent of them were either exclusively devoted to education or only taking part in some occasional works. This therefore implies that academic achievement goes beyond the time devoted to education. Moreover, the perception of students on getting education was used to assess their schooling motivation and expectation. Accordingly, a dominant size of the respondents (87 percent) put that they recognize that education equips with the basic skills to change one's life and the status quo; is the means for technological progress and economic growth; and brings about social, cultural and political changes where as some (13 percent) of them revealed that they do not know why they are pursuing their college education and that they do not acknowledge such benefits of education while many new graduates are becoming jobless each year. They commented that this has been the source of frustration during their schooling span.

Another component of the student attribute is the wellbeing of students. With regard student health and vulnerability to diseases, close to 74 percent of the respondents disclosed that they have been sick at least once during their stay in campus and the major sources of illness were food, water or related infections in the cafeteria. Such illnesses exposed students to various unplanned expenditures and caused late or missed class attendances. Although one can guess the adverse impact of such delays or misses on academic success, the students stated that it was negligible. Similarly, the relations students have with school mates and teachers could have significant effect on success. Students could benefit a great deal from closely working with their instructors and school mates. The data obtained indicates that many of the students closely work with their classmates probably though the official 'one to five' networks organized and mentored by departments. In contrast, almost all respondents stated that they do not almost consult their instructors partly because they are fearful and besides due to the fact that most instructors are unfriendly.

Furthermore, the perception of students' on parental support as well is theoretically considered as one crucial input of student performance. Accordingly, sample respondents have been enquired to describe the extent of support they gain from their relatives, sponsors or adopters. As a result, close to 58 percent of them assured that their parents provide them with everything they need for effective schooling.

Quite the reverse, close to 20 percent of them perceive that they are devoid of the required parental overall support (follow up, advice, encouragement and finance) while the remaining 22 percent feel that they are gaining only a part of the likely support they deserve to get from their relatives. The paradox here is that both those who feel they are receiving adequate support and those who do not are equally top performers in the sample data. Finally,

4.2.3. Analysis of Socio-Economic Factors

The second groups of factors for academic achievement are socio-economic factors. Variables such as family level of education, occupation, attitudes towards education, family size, presence of senior outstanding students, and extent of follow up and guidance are included in the questionnaire survey. This section hence discusses these variables in view of the gathered data. With regard to family characterization, 57 percent of them belong to male headed households while 31 percent of them are members of a female headed household. The remaining goes to households headed by others. There is no clue as to which household is better for student success. The occupation of household heads is distributed in such a way that 33 percent are farmers, 24 percent are self-employed or civil servants, and the rest are merchants, laborers, bankers and security workers. One essential social variable is the academic status of parents, adopters or sponsors. The questionnaire survey reveals that majority of the parents, 86 percent, have completed at least primary education with most of them being secondary education graduates. Only a few of them (14 percent) have not yet got the opportunity to go to school or be literate. Although we cannot unambiguously say, at least at this stage, that family education indisputably enhances the probability of success, the data on parent education and student score demonstrates that majority of the top 22 performers (78 percent) belong to the educated group of parents while only 22 percent belong to the illiterate. The same holds true for other categories and the whole data set.

A related issue is the economic status of parents. The size of financial support students require to acquire schooling facilities is decisive for academic success. The data reveals that the average estimated monthly stipend sample female students receive equals 440 Ethiopian Birr. The 44 top performer students receive, on average, only approximately 367 Ethiopian Birr. Hence, for this sample data, the economic status of parents and thus the size of financial support does not look to affect the academic performance of students. The size of family again affects the academic achievement of students in terms of division of family resources and attention provided to children. However, the data shows that household size for the families of the top 22 performers averaged 6 people where as it is below 5 people for the whole sample data. Hence, the data set refutes the fact that large families involve tradeoffs with quality of education.

Finally, let's look at the effect of presence or absence of senior outstanding students around, and extent of parent follow up and guidance on student performance. In relation to the influence senior role models could create on female students, many of them stated that they do not have such outstanding senior students while some of them denied the positive influence of such circumstance. The remaining ones admitted the motivation and the courage they learnt from their outstanding seniors.

4.2.4. School Characteristics

The last input for academic achievement constitutes the nature of the school environment. College circumstances include variables like class size, qualification and experience of

instructors, anxiety, availability and quality of academic facilities, the absence or presence of female role model teachers, situation of training on assertiveness, students' department choice and placement, extent of guidance and counseling, and situation of all kinds of sexual harassment. The availability and quality of schooling facilities in this study includes dormitory facilities, cafeteria services and supply of direct educational facilities. Sample respondents were enquired to rate the accessibility and quality of those facilities. Accordingly, the supply of clean water, basic beds facilities, reliable power supply and secured dorm environment have been ranked good and above by the 87 percent of the respondents. However, within this category, majority of the respondents stated that they have poor access to clean toilet and regular bathroom services. Likewise, the quality of cafeteria services described in terms of quality of food prepared, food menu, dinning schedule and cleanness of dinning equipment has been ranked poor by the 57 percent of the respondents. Again here, the majority of same respondents stated that quality of foods prepared and food variety are even poorer.

The other facility here often directly related to academic success is the adequacy and quality of educational facilities. Educational facilities has been described in terms of availability of reference materials, access to computers, access to internet services and the supply and quality of laboratory materials. The sample data discloses that 76 percent of the sample respondents state that they have very poor access to educational facilities. Most of them have to depend only on lecture notes; have to travel thousands of kilometers for laboratory services; and have visit the computer and internet centers outside the campus for clerical services and to browse further information from the internet.

A second component of the school characteristic is the qualification and experience of instructors. The secondary data obtained from Institutional Planning and Performance Monitoring Center (IPPMC) shows that most of the instructors in the University have their master degree or above (355 of the 564 academic staff on duty in 2006 till the end of the third quarter) despite the recent substantial turn over (79 instructors till the end of the third quarter, 2006) mainly of the qualified and experienced ones.

To make the image complete, primary data has been collected to examine the capability of instructors to deliver courses, judge effort of instructors to provide extra knowledge and assess the evaluation mechanism. As a result, 74 percent of the respondents state that almost all of their instructors are capable to properly deliver the courses while the rest rate the instructors as incapable to deliver the courses. Regarding evaluation, likewise, 60 percent of the female students included in the study say that their instructors evaluate exams and assignments properly and impartially. The rest 40 percent have the feeling that only few instructors properly and impartially evaluate their works and there are even some instructors that deliberately hurt students in evaluation for various reasons. The point on the effort of instructors in providing students with reference material is inconclusive because 50 percent of them said that most of them exert their utmost effort to provide students with

supplementary material and additional knowledge while the balance complain that only few or almost none of them do that. Another school variable is the situation of college related anxiety. The likely sources of anxiety include immature relationship with the opposite sex; family sickness, break-up and/or poverty; various kinds of sexual harassment; deliberate exam or assignment related intimidation by instructors; and student rumors and misinformation about exam, assignment and others. During their stay in the campus, 71 percent of the students indicated that they have been subject to tension for varied reasons while the remaining 29 percent stated they were free from any tension. The former group revealed that the extent of tension was severe especially when they were fresh to the campus. For those who agreed for their subjectivity to tension, the major sources of anxiety stated by the respondents equally (each 24 percent) are student rumors and misinformation, and intimidation from instructors followed by family problems (17 percent). The remaining 35 percent put a combination of family problems, student rumor, poverty, difficulty of exams, harassment and unmatured relation with the opposite sex.

The choice of field of study and placement affects student performance through its effect on background knowledge, class attendance, and expectation after graduation. The data indicates that almost all of the respondents (93 percent) have been placed in the department of their choice and those who have not been state that the placement did not create any problem on their schooling performance. Another school variable is sexual harassment. The types of harassment include verbal abuse and dirty comments, forced kiss, touching sensational body parts, forced sexual intercourse. Issues like frequency of sexual harassment; its challenges and consequences; the measures taken; and reasons for hiding it have been incorporated. The data tells us that 70 percent of the respondents have not yet faced occasions of sexual harassment. The rest 30 percent of the sample respondents state that they have faced verbal abuses, touching body parts, attempted sex and some or all of the above types. Some of those who have been harassed have reported the case to the school management and got solutions. However, many of them though very seriously affected by the incidence, have not reported the case to the school management due to peer pressure, afraid of revenge and an assumption to hide it from people. The victims said many of the harassments come from students and the challenges stay for short periods and have negligible adverse consequences.

The last set of school characteristics are the presence of female counselors and role models, situation of training on assertiveness, extent of guidance and counseling and availability of separate school resource for females. As to the existence of separate school resource, surprisingly, 62 percent of the respondents stated that they do not know any although it is obvious that there is a separate female library while the rest know the female library and use it. Majority of the respondents say that there are not female counselors; there are too few inclusive assertiveness trainings.

4.3. Econometric analysis: *Model estimation*

We have thus far done the descriptive analysis based on the primary data gathered from the questionnaire survey. We will

now utilize the same data to determine the quantifiable contribution of the different school, student and family related determinants of student performance. In particular, this section presents and discusses the estimates for the contributions of admission point, monthly stipend (family income), family education, anxiety and harassment to student academic performance measured in cumulative grade point average in the sample data.

As discussed in chapter three, there exist multitudes of factors that determine student academic performance. However, the model estimation considers only those variables on which ample data have been gathered and those which are most usual in the literature. Accordingly, a dummy variable multiple regression model specified in the third chapter has been reproduced as follows.

$A \Pr = \beta_0 + \beta_1 Ap + \beta_2 Fi + \beta_3 Fed + \beta_4 An + \beta_5 Hr + +\varepsilon_i$ ……equation (4.1)

Where $A\Pr$= Female academic success measured by cumulative grade point average (CGPA)

AP= Admission point measured by higher institution entrance examination result

MSt = Financial support made to a student each month, a proxy for a family income

Fed = Family education status proxied by the maximum education level attained by parents

An = State of anxiety indicated by vulnerability of a student to tension

Hr = Harassment indicated by the subjectivity of a female student to harassment practices and $\beta_1 ...... \beta_5$ = Coefficients representing the marginal effect of regressors on academic performance and β_0 and ε_i , respectively, are the constant and disturbance terms.

As the regression result in the table above reveals, unlike the descriptive analysis, the monthly stipend students receive from parents, adopters and sponsors positively affects, though with small magnitude, the academic performance of female students. The coefficient for monthly stipend has been found to be statistically significant at 5 percent level of significance. This implies that the amount of fund students need to finance their schooling matters in their performance though the not strong (.00004). The interpretation is that one Ethiopian birr addition to student support, on average, raises the cumulative grade point average by 0.00004 points. Hence, interventions that aim to make financial support to female students surely will contribute to their academic achievement. Unlike the direct link observed between prior academic background and current achievement in the descriptive analysis, the regression result shows that the coefficient for college admission result is found to be statistically insignificant at 5 percent level of significance. Hence, the data shows that prior academic performance does not contribute to the academic success of female students in college. The explanation to such deviation may be the fact that most female students face alike academic environments during their high school times and have similar prior competences.

In contrast to the discussions above, the nature of relationship between academic levels of families and performance of students has been found to be alike in the descriptive and econometric analyses. The coefficient for the academic levels of families has been found to be statistically significant with a relatively greater magnitude at 5 percent level of significance. It implies that students that belong to families with a better academic history are most likely to perform well. An average improvement of the academic attainment of a parent by one year, on average, augments the CGPA of a student by 0.03 points.

Table 4.3. Regression Result (Dependent Variable=CGPA and Number of Observations=170)

Variables	Parameters and Statistics					
CGPA	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Monstip	.0000377	.0001154	0.33	0.746*	-.0001968	.0002723
Admisresul	.0052772	.0019274	2.74	0.010 **	.0013603	.0091941
Acadlev	.0246444	.0458709	0.54	0.595*	-.0685765	.1178652
Distrav	-.0002316	.0001386	-1.67	0.104**	-.0005133	.0000502
Tension	-.2793158	.1390988	-2.01	0.053*	-.5619986	.0033669
Harassment	-.1363237	.1271161	-1.07	0.291*	-.3946547	.1220072
Family size	.1102954	.0361495	3.05	0.004**	.0368307	.18376
_cons	.8390379	.7214087	1.16	0.253*	-.627041	2.305117

N.B.:*=significant at 5 percent level of significance and **= insignificant at 5   percent level of significance

After specifying the model, estimation involves utilizing cross sectional data on the above variables. There is then a need to test the relevant variables for homoschedastcity, autocorrelation and multicollinearity to safeguard against the possibility of a regression overstating the usual t-ratios making them unreliable for testing the statistical significance of the relationship between variables leading to wrong inference and policy proposal. Hence, the data has been homoschedastic; error terms are not auto- correlated; and explanatory variables are not multi-correlated allowing an appropriate regression. Accordingly, the following model has been estimated. The analysis of the model and interpretation for the coefficient of each variable is given below.

Educated parents are close to help, advice, encourage, monitor and lead their children and hence parents should work closer to help their children improve their academic record. The coefficient associating the distance travelled to attend college education and academic achievement is negative and statistically significant at 5 percent level of significance. Academic performance declines on average by .00023 as the distance a female student travels to reach Aksum increases by one kilometer. The variable distance travelled affects academic performance through its effect on homesickness, support, guidance, follow up and many other factors. The descriptive analysis does not however prove the inverse relationship between the explanatory variable and the dependent variable. It

instead does not show any pattern on the link between academic attainment and distance travelled.

With regard to tension, Table 4.3 above apparently shows that its coefficient has been statistically significant at 5 percent level of significance with a stronger coefficient. This result agrees with the descriptive analysis whereby majority of the students stated that rumor and misinformation, and instructors exam related intimation have adversely affected their academic performance. According to the figure above, susceptibility to tension reduces the academic record of female students by 0.27 points. The sources of tension relate to factors that the University administration can make a predictable influence. Hence, the university administration should work to develop mechanisms that students will able to get timely and accurate information on campus academic and non academic issues, and should make continued discussions with instructors to smoothen the teaching and learning process.

Sexual harassment is another explanatory variable incorporated in the model. Harassment has as well been found to have a statistically significant coefficient at the same level of significance mentioned above with a greater magnitude (.14 units). A female subject to all or some kind of the various harassment types is likely on average to lose .14 points from its cumulative grade point average. Similar to the descriptive analysis which indicated that about 30 percent of the students have been faced some sort of sexual harassment, the empirical output replicates that that figure has been statistically considerable. This implies that the University administration and university community should do a lot to reduce the prevalence of harassment and the potential daunting consequences of such school ill.

Last but not least, we observe that the empirical result points out no any statistically significant relationship between the family size of the household a student belong to and the academic achievement of a student in contradiction with the descriptive analysis which refuted a negative relationship between performance and size of a family. The fact that monthly stipend does not strongly affect student performance supports the above finding since family size intervenes with the amount of family resource devoted to a student. The constant term was also found to be statistically significant indicating that the effect of other variables not specified model to have substantial.

5.   Conclusion and Recommendations

5.1. Conclusion

The research work presents the factors that determine academic performance of female students in Aksum University based on descriptive and econometric tools. The empirical analysis was undertaken based on a dummy multiple regression analysis. Accordingly, the main research findings obtained from the research are summarized as follows:

- The econometric and descriptive analyses on student characteristics have come up with varying results. The econometric analysis indicated a statistically insignificant coefficient for admission result while the descriptive

analysis revealed a positive correlation between the variables. Besides, both the pre-college role in family and student perception about themselves and their performance do not have any vivid influence on student success. The analyses for student motivation and expectation, student well-being, relations with school mates and teachers, and perception of students' on parental support were not an exception. The major causes of student sickness were food, water or related infections in the cafeteria which exposed students to various unplanned expenditures and caused late or missed class attendances.

- With regard to family attributes, the econometric analysis indicates a positive effect of monthly financial support and academic level of while the effect of family size was statistically insignificant. Likewise, the descriptive analysis revealed that variables such as family level of education, occupation, positive attitudes towards education, presence of senior outstanding students, and continued of follow up and guidance positively contribute towards improved student academic attainment.

- Moreover, with the school attributes, the variables tension, harassment and distance travelled have been found to have a statistically significant detrimental effect on student performance. The qualification and experience of instructors, and students' department choice and placement are the two issues students are happy about. The research indicates that there exist poor availability and quality of academic facilities; female role model teachers are absent, and there has been weak guidance and counseling services.

- Finally, the major problems surrounding the performance of female students include lack of adequate financial support, absence of female counselors and special tutorial programs, limited contact with University management and pervasive tension and student harassment.

5.2. Recommendations

Based on the empirical findings about the factors affecting female students' college academic performance concluded in the preceding section, the below-mentioned policy recommendations can be legitimately proposed.

- The University management should work to improve the motivation and expectation of students on schooling through extra training programs so that frustrations up on past employment trends could be minimized. The major causes of student illness identified as food, water or related infections should get attention as well. Finally, there should be discussions to enable students closely work with and exploit their instructors against the status quo indicating very rare student-teacher attachments.

- The University, in collaboration with other stakeholders, ought to exert its maximum effort to fill the financial needs of female students. Besides, families should be aware that their support, attitude towards education, guidance and follow up contribute a lot towards female academic success.

- Moreover, the University community in general and the management body specifically should be committed to

combat all sorts of harassment that adversely affect performance. Besides, a lot is supposed to be done to shun artificial sources of misinformation and confusion with the help of trainings and frequent updates on timely issues. Furthermore, the policy of student choice based department placement should continue and the qualification and experience though found positive should be enhanced. Finally, a great deal of work has to be accomplished to improve the academic facility of the university.

- In sum, the University should work hard to tackle the major problems the sample respondents raised namely; lack of adequate financial support, absence of female counselors and special tutorial programs, limited contact with University management and pervasive tension and student harassment.

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