FACULTY OF ECONOMICS AND POLITICAL SCIENCE

CAIRO UNVERSITY

CLASS 2011

Gender Gap in Basic Education in Egypt

Authors:	Under the supervision of:
Jala Ali	Dr. Azza El-Naggar
Reem Nady	
Maria Joseph	Date:
Sylvana Fayez	3/7/2011

<u>Acknowledgments</u>

We would like to express our gratitude to our supervisor **Professor Azza El-Naggar** for her cooperation and support throughout each stage of this research paper.

Also we would like to thank each and every faculty member or anyone who helped and contributed to our research by any means.
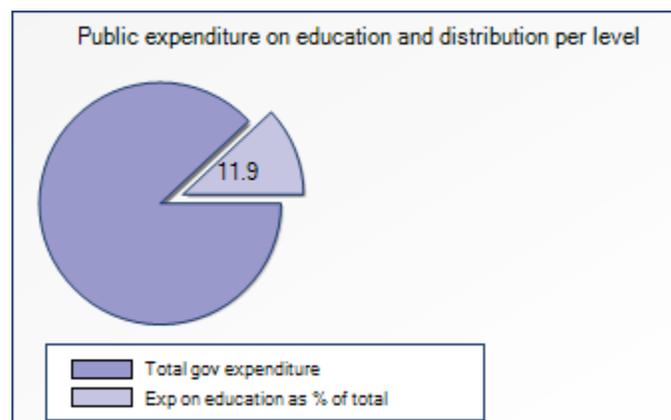
Table of Contents

Chapter I

Introduction

Education is a fundamental human right: Every child is entitled to it. It is critical to our development as individuals and as societies, and it helps pave the way to a successful and productive future. When we ensure that children have access to a rights-based, quality education that is rooted in gender equality, we create a ripple effect of opportunity that impacts generations to come and prepares our country's future to a sustainable road of advancement and growth.

Graph (1)

The Egyptian Constitution recognizes the importance of education for it guarantees compulsory and free education at the basic stage for all Egyptian children within the age from 6 to 15 years. And ***11.9% of government spending goes to education***.

Public expenditure on education and distribution per level

11.9

Total gov expenditure
Exp on education as % of total

Source: United Nations Educational Scientific and Cultural Organization (UNESCO) Institute for Statistics [i]

However, this right is not practiced by a lot of Egyptians; the World Development Indicator Databases shows that the number of children who are not enrolled in education

in 2004 was 219,515.Which hinders the country's economic and social growth along with its societal evolving.

Furthermore, gender biases occur more prominently when it comes to enrollment in primary education in Egypt.This is a problem that has to be dealt with because gender is a social construct, not a biological one, and discrimination on this basis is consequently difficult to assess and address. Distinctions based on biological sex can be measured statistically, whereas gender differentials entail more subtle distinctions on male and female roles. Achieving gender equality in school is just one step towards gender equality in and through education. Also discrimination can occur based on the place of residence (rural or urban) or the standard of living (rich or poor)

Table (1)

Children's attendance rate in basic education:

Net attendance rate (%)	Total	Male	Female	Urban	Rural	Richest	Poorest
Primary school	95.1 %	96.3%	93.8%	96.6%	94.2%	98.8%	88%

Survey data: Egypt 2005 Demographic House Survey (DHS)

Given the importance of both, gender equality and basic education, we aim to study the societal factors that affect the deficiency of these two primary rights to be able to objectively and sufficiently reach steps to counter the problem.

1.1) Objectives:

Our main objective is to study **the socio-economic indicators that cause gender discrimination (inequality) in enrollment in basic education in Egypt**.

In order to do so we need to answer the following questions:

- What are the reasons for children never attending school?
- Do boys have better chances at attending schools?
- Who drops out more, boys or girls?
- Does the sex of the household head gives privilege to boys/girls?
- How big is the effect of standard of living on enrollment?
- What is the effect of the place of residence of children on their education and the level of gender discrimination they face?
- Does the number of living children affect enrollment? If it does, the effect is more on boys or girls?
- What is the effect of the size of household on the educational status of the children?
- Does the mother's educational level affect the children's education? And whether the effect is more on boys or girls?
- Whether the child being an orphan affects his/her educational status?
- Does the relationship of the child to the head of household has an effect on his/her educational status?

1.2) Literature Review:

After doing some research concerning previous studies similar to ours, we found that more than one study has been conducted by well known organizations like the World Bank, the United Nations Children's Fund (UNICEF), and the United Nations Development Fund for Women (UNIFEM). Each of the following studies discussed different questions, used various methodologies and data sets, and reached conclusions.

The first of which was a study titled"The Relationship of Gender Difference in Education to Economic Growth: A Cross-Country Analysis"[ii] conducted by Sadeghi in 1995. The objectives of this study were to explore the cross-country relationship of gender gap in literacy levels and in enrollment rates to per capita GNP (Gross National Product) growth. As well as to find out whether the relationship of gender gap to economic growth in the countries of OPEC (Organization of Petroleum Exporting Countries) and/or the EAC (East Asian Countries) differs at a statistically significant level from that of the other countries under investigation due to socio-economic structural differences. Linear and linear-log regression models were used for the analysis to estimate the relationship of gender gap to economic growth.

Dummy intercept shifters were included into the regressions to measure the effects of OPEC and EAC. Results showed that:

(1) The relationship of narrowing literacy and enrollment gender gaps, at primary or secondary levels, to per capita GNP growth were positive and statistically significant.
(2) The effect of the OPEC dummy was negative on the intercept of the estimated regression lines, while the effect of the EAC dummy was positive. Both of the estimated OPEC and EAC effects were statistically significant.

This study, besides enhancing the findings of previous studies on narrowing education gender gap, suggests further research on the possible socio-economic factors that might have inhibited the income growth in OPEC countries.

However, one thing could be taken on the study, which is that it showed that there is another factor or factors that could be affecting GNP. But that doesn't necessarily mean that these factors would be gender gap in literacy levels and in enrollment rates. Further research on the possible socioeconomic factors that might have inhibited income growth in OPEC countries was suggested.

Another highly related and beneficial study was one made by Suliman and Kogali named "Why are the Children Out of School?"[iii] that was conducted using the DHS data of 2000. This study is very similar to our own for it used the same data but for the year 2000 and tackles very similar research questions. The objective of the study is to identify the factors affecting children's education in Egypt in terms of access and completion at the basic education level. Two main questions guide the study; what are the reasons for children never attending school? And for those who did attend, what are the reasons for dropping out before completing the basic level? In answering these questions the study:
(i) Examined trends in basic education enrollment with specific focus on gender gaps;
(ii) Examined the varying performance of governorates in raising enrollment, especially among girls.
(iii) Analyzed the factors perceived as barriers to schooling of children; and
(iv) Assessed the impact of individual, household and community level variables on schooling with particular emphasis on child labor as a competing activity to participation in school.
As for the methods used in the previously mentioned study, there were basically two methods that were employed. First, applying a data reduction technique, using the principle component analysis, to construct two indices of valuable interest to this study namely; a proxy index for household standard of living/wealth level and a proxy index for mothers' role in household decision making process. And second, it applied a data analysis technique starting with simple bi-variate analysis and ending with a multivariate analysis based on multi-level logistic model.
The reached conclusions and recommendations for the study were found to include the following:
- Paying more attention to raising school enrollments with particular emphasis on girls and the poor and the governorates that are lagging behind, namely Matrouh,

Beni Suef, Fayoum, Assuit, and Behera governorate. Interventions similar to the ones led by the Ministry of Education and the international donors are particularly encouraged.

- Improving quality of education to reduce repetition and dropout, particularly among boys.
- Removing stigma associated with low academic performance and recruiting social workers for schools to help improve students' self esteem and confidence.
- Efforts are needed to change beliefs of the poor about the importance of girls' education. Awareness raising campaigns and community outreach programs were most recommended.
- Facilitating the burden of direct and indirect costs of schooling for the poor
- Easing the financial burden of education on the poor by providing scholarships or tuition waiver and subsidized uniforms, books, and supplies.
- Building schools at accessible distance to the poor.

However, another study[iv] tackled a different aspect of education which was focusing on the Middle East and North Africa (MENA) countries not just Egypt. By studying the positive and negative aspects of education in those countries the study was able to assess the quality of education in these countries.

What they concluded was that it was not enough to make education more widely available; the quality of the education also needs to be improved. Arguing that the poor quality of education in MENA countries has led to a significant mismatch between the labor market's needs and graduates' skills, the 2002 Arab Human Development Report points out that education in the region often fails to teach students to analyze information or think innovatively. The report also warns that education systems may split into two tiers, with high-quality private education available only to the wealthy minority and low-quality public education the sole option for most citizens. Such a trend would turn education into a "means of perpetuating social stratification and poverty" rather than a means of increasing social equality.

Moreover, a thesis[v] submitted in partial fulfilment for the master's degree in biostatistics and demography in the Institute of Statistical Studies and research, Cairo University, under the title "Socioeconomic and demographic factors affecting drop-out in basic education in Egypt" in 2006 also proved to be highly beneficial to our study. The DHS 2000 data was used, where information was gathered from mothers who have been married in the age 15-49. The study shows that there is a huge gender gap in education in Egypt, both in percentages of enrolment in schools and percentages of dropping out. During the study three types of variables were used; demographic, social, and economic; where the demographic variables were age of child, order of child, size of family, age of mother, and age of father. The social variables were the mother's level of education, the father's level of education, and the place of residence. While the economic variables were 3 indicators; shape of household's place of residence, household ownership of durable goods, household's ownership of assets and transportation means, and the three indicators form a wealth index.

The methodology used in the thesis was divided into Descriptive analysis of the data, a Cohort analysis and then Multiple Logistic Regression was applied.

In the Descriptive analysis part, two kinds of data were studied and described; first the ministry of education data which represent the number of students from the academic year 1992 to 2002. The other data kind is the Egypt DHS 2000 which represents data of ever married women aged 15-49.

Moreover, in the Cohort analysis, the thesis followed up a number of students starting from academic year 91/92 till 2000/2001 to determine the size of the drop out phenomena.

And finally, in the Multiple Logistic Regression, the main reasons and factors responsible for dropout in basic education in Egypt were determined and analyzed.

The main conclusions drawn from this study are that even though there is a gap in education according to sex; this gap was found to be decreasing by time, where this gap falls from 3.7% in the academic year 92/93 to 1.5% in the academic year 2002/2003 in primary education for new students, and falls from 5.3% in 92/93 to 2.5% in the academic year 2002/2003 for preparatory education.

The other conclusion that the study shows is that by following the cohort analysis, the drop out ratio for males in primary education is 8.5% against 5.4%for females. And for preparatory education the drop out ratio for males is 16.6% against 11.9% for females. By studying the determinants of the drop out phenomenon in Egypt, it was found that the most important factor is repeating the academic year for the students.

Another paper highlighted a framework called "the Gender Equality Framework"[vi] that was designed to address inequality. This framework helps ensure that education projects meet the needs of all learners. Using an approach that takes the relations and interaction between males and females into account, the Gender Equality Framework addressed four dimensions of equality in education, which were: equality of access, equality in the learning process, equality of educational outcomes, and equality of external results. After analyzing each of these dimensions, the following recommendations were made to improve gender equality in education:

- Ensuring that gender concerns are identified and addressed at the highest level of politics and public policy.
- Recognizing that there are myriad entry points for addressing gender inequalities, which include enrollment policies and practices, curriculum relevance, teacher deployment, learning environments, security, new technologies, and resource allocation.
- Ensuring that gender concerns are identified and addressed in activities focusing on global issues such as HIV/AIDS and education in emergencies or post-conflict situations.
- Analyzing how specific educational programs and policies impact girls and boys differently, taking into account different roles, responsibilities, needs, and interests and address them during the project design process.
- Integrating gender awareness components into pre- and in-service teacher training.
- Incorporating gender considerations into activities to develop curricula and learning materials.

- Identifying and reporting on indicators such as girls' and boys' net and gross enrollment, gender parity in enrollment, equality in educational outcomes, and girls' and boys' completion rates.
- Making interventions for girls more effective by integrating them into a coherent overall strategy for education reform.
- Developing practical tools to support programming staff in designing, implementing, reporting on, and evaluating programs that address equitable access and quality from a gender perspective.

A more recent study[vii] made by UNIFEM (United Nations Development Fund for Women) in Egypt about gender equality showed that, in at least 50% of cases reviewed, the decision not to send girls to school was heavily influenced by the view that education does not guarantee employment. This perception seems to coincide with economic studies showing that the employment market can actually *punish* the education of girls. UNIFEM has concluded that women's average wages are less than those of men in all countries where data are available. A paper by Wilson was accordingly written focusing on gender equality and examines gender parity by way of comparison, on the premise that it is a necessary but insufficient precondition for the realization of equality. It also discusses a human rights framework for education to promote gender equality in and through education.

Furthermore, a paper called "Gender Inequality in Education: Impact on Income, Growth and Development"[viii] explained the causes of the Gender Inequality of education and analyzed how it impacts the economic growth & development, investment and population growth etc.

The study questions that were brought up by this paper were:

1. Is lower investment in girls' education simply an efficient economic choice for developing countries?
2. Does gender inequality reflect different social or cultural preferences about gender roles?

3. How does gender inequality in education play a role in economic growth? Investment? Population growth?

The paper concluded that the gender inequality is an endogenous variable and show that it can be explained to a considerable extent by religious preference, regional factors, and civil freedom.

A second main finding is that gender inequality in education is bad for economic growth. The result suggests that an exogenous increase in girls' access to education creates a better environment for economic growth.

A final paper called "Measuring Education Inequality: Gini Coefficients of Education"[ix] was aimed at developing a measure for educational inequality, using the concept of education Gini index based on school attainment data, for a large number of countries over time. Education Gini was used as one of the indicators of welfare, complementing average educational attainment, health and nutrition, income per capita, and other indicators of welfare.

The paper looked into the relationship between the education Gini index and average educational attainment, gender gaps, and the standard deviation of education. As a narrowly focused technical paper, they did not attempt to find a causal relationship between inequality in education and growth, as they could be jointly determined and mutually reinforcing.

The used methodology was GINI by the Lorenz curve and the egalitarian line to the area of the entire egalitarian triangle.

The concluded recommendations for this paper were that work on education should be continued in the direction of conducting econometric analysis to explore relationship between education inequality and other aspects of development.

In conclusion, all the previous studies offer us a wide range of references that would be highly beneficial and constructive for our own study and for reaching our conclusions and needed recommendations to locate the sources of the problem and help eliminate gender discrimination in basic education.

Chapter II

Methodology and Data

2.1) Data used:

In our study we used the data from Egypt's DHS 2008. We used this data because it's the most recent collected regarding children's education in Egypt. The Egypt DHS collects data on households; this data reflects some basic information on the household members, such as relation to head of household, number of household members, sex of head of household…etc. Also it reflects the economic conditions of the household, using a wealth index that is formed using many indicators such as possession of consumer goods, condition of the household, place of residence, source of drinking water, among many other indicators.

Another important variable the data include is the school attendance status of the children, which is the main goal of our study. It shows the information on reasons for never attending school and reasons for dropping out. The DHS also provides information on many other things such as rates of mortality and fertility, mother and child health, and information on ever-married women in their reproductive ages (15-49 years).

The DHS data are collected based on a complex sample design (Multi-stage stratified cluster sampling). In our study we use the DHS of households having children of age 6-15. The sample consists of 18,936 children, 9693 male and 9244 females.

2.2) Methodology:

We started our analysis with a full description of our data and variables using cross-tabulations, bar graphs, pie charts, and other various descriptive techniques. Then we moved to performing a binary logistic regression.

2.2)1. Model:

Our goal is to study the effect of some socio-economic indicators on the school attendance status (never attending and dropping out) of boys and girls. In order to do this we will design 2 binary logistic models, one for boys and one for girls. And like that we can study the significant factors that affect school attendance status for both boys and girls separately so we can clarify the gender gap, if it exists. We will run the logistic regression twice, once fitting the model for boys and another time for girls.

In general, the logistic regression model will have the following form:

$$\textbf{Logit } [\pi] = \log \left[\frac{\pi}{1-\pi} \right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots + \beta_i X_i$$

Where:

Logit $[\pi]$ = log odds of the child not attending school

β_0 = model intercept

$\beta_1 \ldots \beta_i$ = the logistic regression parameters

$X_1 \ldots X_i$ = the independent variables

2.3) Measurement of variables:

Our dependent variable is a binary one; it's called "school attendance status". It's coded with the value 0 if the child is attending school, and takes the value 1 if the child is not attending school. The independent variables are:

- Household Size
- No. of children <5
- Place of residence
- Sex of head of household
- Age of head of household
- Wealth
- Mother's highest educational level
- Relationship to head

<div align="center">

Chapter III

Relations and Facts of Education in the Egyptian Society

</div>

3.1) Quick look on gender discrimination in education:

The Egyptian society, by nature, discriminates between boys and girls when it comes to education. Normally due to traditions, boys are more likely to go to schools than girls, but however boys are also more likely to drop out of schools to help their parents and their families. Using the available data we found that there is a weak significant relation between the **sex of the child** and his school attendance status. Table 1 below shows that the percentage of children who never attended school is higher among females than males, as 6.7% of males never attended school whereas this percentage increased to 9.7% in females. On the other hand females who attend school have a better chance to continue, which is clear in the percentages of drop outs which is 3.9% of the males and 2.9% of the females.

Table (2)

Sex of child and school attendance status

		school attendance status			
		never attended	drop out	other	Total
Sex of household member	Male	6.7%	3.9%	89.4%	100.0%
	Female	9.7%	2.9%	87.4%	100.0%
Total		8.1%	3.4%	88.4%	100.0%

Source: Authors calculations using Egypt DHS data 2008.

3.2) Standard of living VS rates of enrolment:

One of the most important factors that determine the educational status of a child is the standard of living of his/her family. This does not only apply in Egypt, but in all other countries, as the poorest families have fewer tendencies to send their children to schools than the richest ones. When we apply that on Egypt we find that the degree of **wealth** of a household has a weak significant relationship with the school attendance status for children (both males and females). (*See Appendix tables 1 and 2*).

Moreover, the percentage of female children who never attended school is twice (20%) that of the male children who never attended school (10.8%) among those who are poorest. However, among the richest households, the difference between males and females never attending school is not as significant where males never attending are 4.1% while females are 5%.

As for children who dropped out, the percentage of males who dropped out is higher than females who dropped out in the poorest and poorer households (6.8% of males and 4.4% of females) but this difference also decreases in the richer household and the dropout percentage decreases as we go from poorest to richest in both male and female child. (*See Appendix tables 3 and 4*).

Another factor that indicates the standard of living is the **place of residence** of the household. On comparing between the children's educational status in rural and urban areas, and studying whether the place of residence has an effect on the discrimination between children according to their genders, we obtained the following results which are clear in the following diagrams; In **rural areas** the percentage of females who never went to school is higher than males by 4.4% (see graphs 2 and 3), however the drop-out rates are higher among males in these areas. Whereas in **urban areas** there are slight differences between males and females in all the educational statuses, which might indicate that gender discrimination in education in Egypt, is more widely spread in rural areas. (*See Appendix tables 5 and 6*).

Generally the percentage of those attending school in urban areas is higher than rural areas.

Graph (2) – Comparing percentages of never attending school in rural and urban areas:
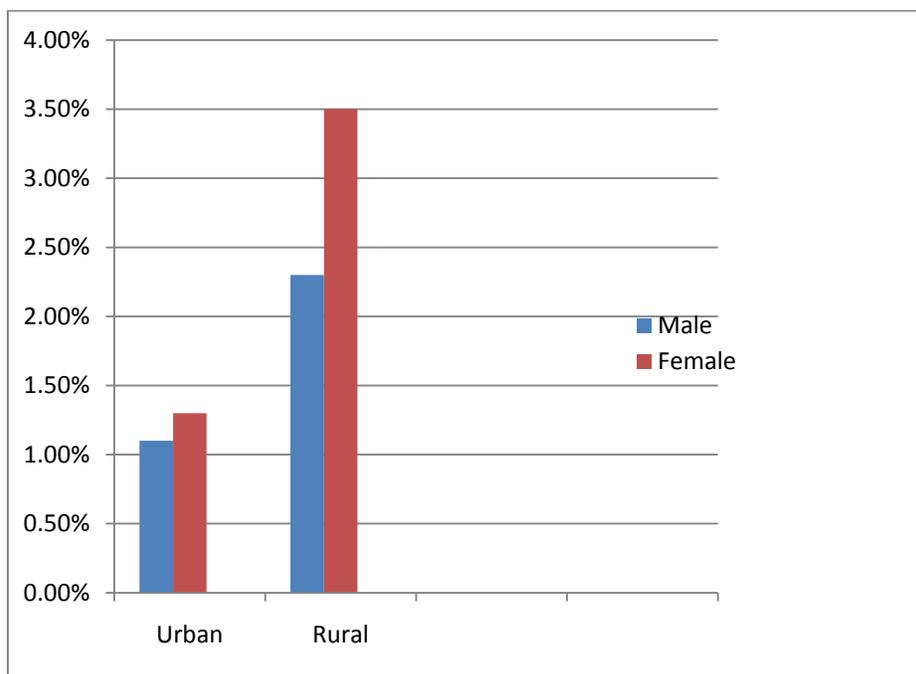
(Graph (3) – Comparing percentages of dropping out of school in rural and urban areas:
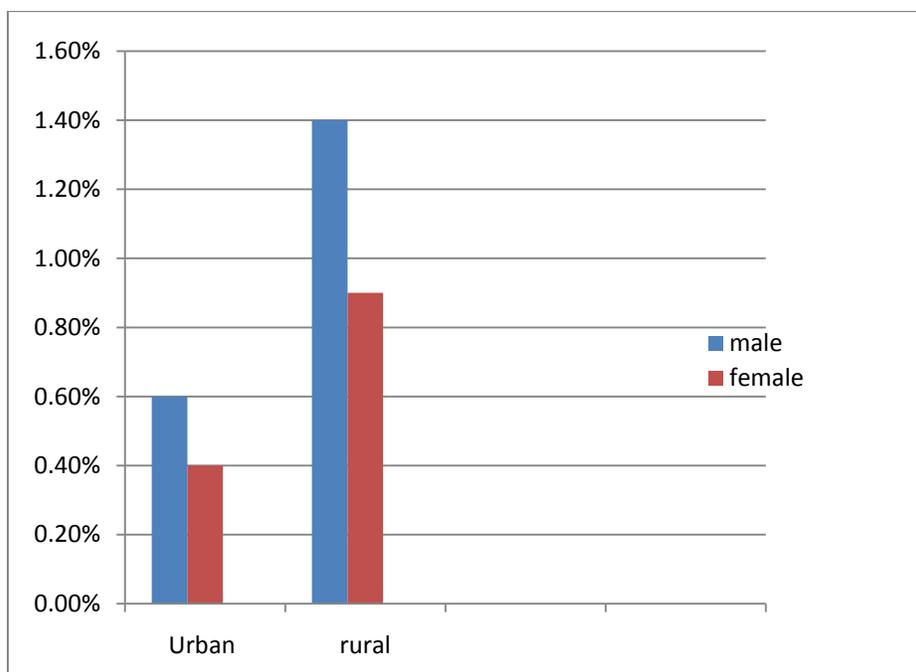
Source: Authors calculations using Egypt DHS data 2008.

Table (3)

Current school attendance status by gender and wealth index

		Sex of household member									
		Male					Female				
		Wealth index					Wealth index				
		Poorest	Poorer	Middle	Richer	Richest	Poorest	Poorer	Middle	Richer	Richest
		Column N %	Column N %	Column N %	Column N %	Column N %	Column N %	Column N %	Column N %	Column N %	Column N %
School Attendance Status	never attended	10.8%	6.8%	5.8%	4.5%	4.1%	19.8%	9.0%	6.5%	5.4%	5.0%
	drop out	6.8%	5.4%	3.5%	2.3%	.4%	4.4%	3.7%	2.6%	2.2%	.7%
	Attending School	82.4%	87.7%	90.8%	93.3%	95.5%	75.7%	87.2%	90.9%	92.4%	94.3%

Source: Authors calculations using Egypt DHS data 2008.

This table shows the distribution of children's attendance statuses by gender and the level of household wealth. We can notice that there is a small gender gap when it comes to attending school but the wealthier the family the more the child attends school. Also the percentage of males dropping out is approximately twice that of females especially in lower classes.

3.3) Gender privileges by the head of the household:

Different criteria's of the head of the household, like sex or age, may play a role in giving privileges to boys over girls or the opposite. It is shown from the study that children whose **head of household is a male** and never attended school are more than those whose **head of household is female** and never attended school but only by almost 2% (8.3% and 6.5% respectively).

While dropout percentage of those whose head of household is a female is more than that of children whose head of household is a male but also by a small percentage (4.2% and 3.3% respectively). (*See Appendix table 7*).

While it was also found that there is a significant weak relationship between sex of the head of the household and the school attendance status, which indicates that the head being male or female might affect whether a child never enters school or drops out. (*See Appendix table 8*).

Table (4)

School attendance status with sex of head of household

Sex of head of household	School attendance status	
	Never attended	Drop out
Male	8.3%	3.3%
Female	6.5%	4.2%

Source: Authors calculations using Egypt DHS data 2008.

Also the **age of the head of the household** could be of a huge effect on the education of the child. This relation is significant; however it's a weak one. When the head of the household is young, we find that boys are more likely to drop out of school, or never attend in the first place, so they can help their families. As we can see that when the age of the head of the household lies from **15 to 25**, 17.5% of males never attend school,

while 20% drop out. These percentages are less for females, however not much less (15.2% and 13% respectively). *(See Appendix table 9).*

Table (5)

School attendance status with sex of child when the age of the head of the household is from 15 to 25

Sex of child	School attendance status	
	Never attended	Drop out
Male	17.5%	20%
Female	15.2%	13%

Source: Authors calculations using Egypt DHS data 2008.

But when the age of the head increases to **26-60**, the percentages of never attending and dropping out are lower for both males and females. As heads in this age interval would be more capable of working and providing the children with proper education. In this interval, 90% of males and 88% of females do attend school. (*See Appendix table 10).* The last age interval for the head **61-90** is almost similar to the first one. As in this age the head of the household might not be able to provide the family with its need on his/her own, so boys tend to drop out of school to help their families. *(See Appendix table 11).*

The **type of relation between the head of household and the child** is a fundamental aspect of the child's life, especially in the Egyptian community that relates a lot to known traditions. For example a father or mother will tend to educate their own biological child rather than a step or adopted one. So the discrimination here does not come in the form of gender only, but also in the type of relation to the head of the household. Our study revealed that the relationship of the child to the head of household (being his son/daughter, brother, grandchild….etc) has a weak significant impact on his educational status. We can find that the largest percentage (14%) of those who never attended school is the children who are the siblings of the head. And the highest percentages of those who

dropout (80%) are children who are the son/daughter in-law of the head, which indicates that, in the Egyptian society, people discriminate between their biological children and other children in the household; followed by those who are married (70%) which shows that if a child got married at an early age (less than 15 years) he has to quit learning. And finally the largest percentage of those who attend school (89%) is for children who are the sons/daughters of the head of household. *(See Appendix tables 12 and 13).*

3.4)   Role of parents in the education of their children:

Now moving to the effect of the **parental presence**, we divided this variable into; both parents being alive, only one alive, and both being dead. And this of course can play a role in determining the status of attending school for both male and female children. After studying this effect we find that in the case of **mother and father being alive** and **only one parent alive**, both males and females have very high chances of attending schools, where approximately 90% of males and 90% of females in both cases actually go to school. This relation between the presence of parents and the child attending school is a significant one; however it's a weak relation, where the Phi coefficient is less than 0.1 in the two cases. *(See Appendix table 14, 15, 16, and 17).*

However, in the third case, which is the absence of both parents, our findings were somewhat different. First, the relationship is not weak as before; the Pearson's R and Phi coefficient are 0.4 which indicates a moderate relation. And we find that almost all the girls attend school and continue their education, while 31.3% of males never attend school and 12.5% drop out. This of course reflects the nature of the Egyptian society, in which, when parents are dead, boys tend to drop out of school and work in order to help provide for their families. *(See Appendix tables 18 and 19).*

Graph (4)

Comparing school attendance statuses for males and females when both parents are alive
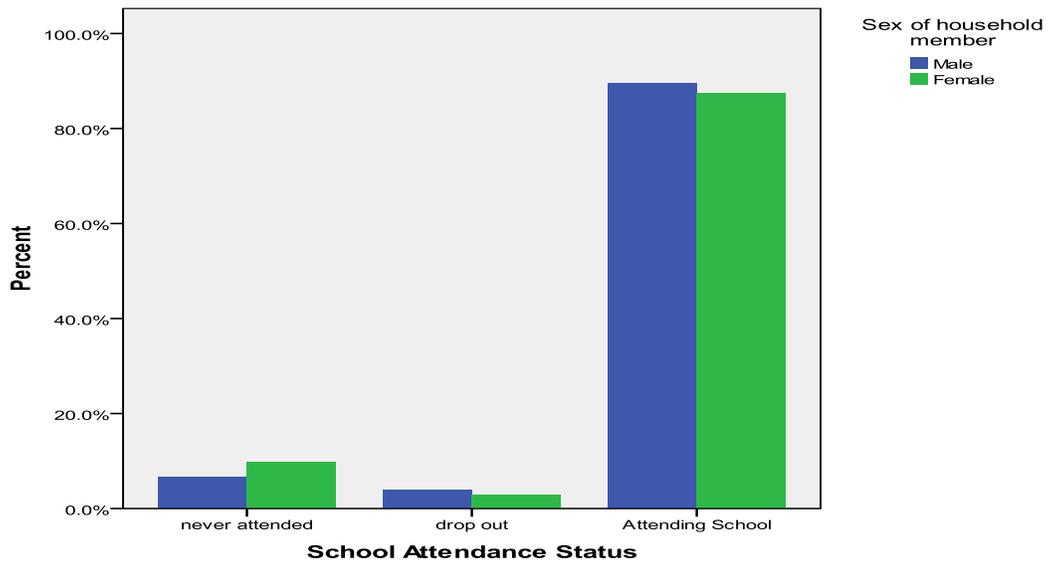
Graph (5)

 Comparing school attendance statuses for males and females when both parents are dead:
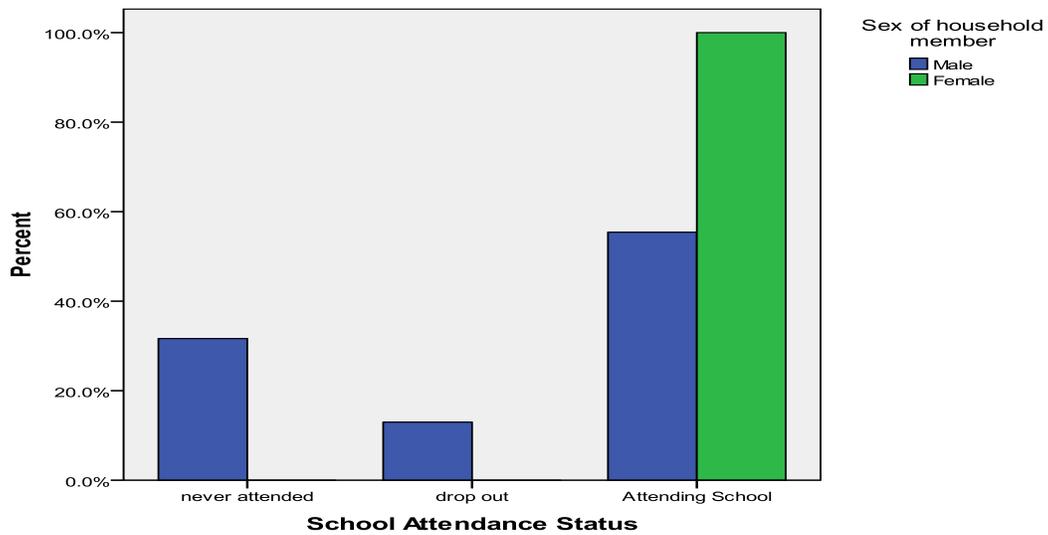
Source: Authors calculations using Egypt DHS data 2008.

Another very important factor that could influence the education of Egyptian children is the **educational status of their mothers**. Studying the relationship between school attendance status of males and females and mother's highest education level (consisting of 4 categories; no education, primary, secondary and higher) we found that there is a significant relation only when the mother has no education, though it's a weak relation. *(See Appendix table 20).*

So when the mother of the child has no education we find that 85% of males and 83% of females are attending, however the dropout % among males is higher than females by 4% (males:10%,females:6%).while the percentage of child having never attended school among females is higher than males by 6% (males:4%,females:10%) and that was predictable since males usually dropout to help in home expenses and females usually don't go to schools to help in home chores. *(See Appendix table 21).*

Graph (6)

The percentage of mother's highest education level
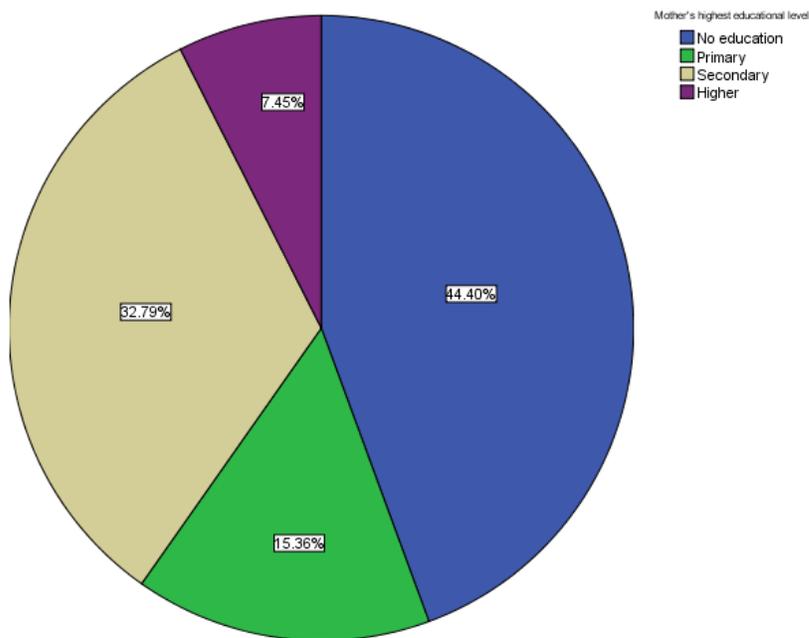
Source: Authors calculations using Egypt DHS data 2008.

3.5) Enrollment rates with relation to the size of the household:

Egyptian households can be very different. The **size of the household** ranges from 2 to 39; which indicates a very wide range of household sizes. And of course this variety of the number of household members may contribute to school enrollment of children. We can note that, in general, the percentage of female children never attending school is greater than that of males never attending; however this percentage increases significantly as the household size increases. For in households with normal sizes (from 2 to 7 people) the percentage of children never attending school is only 6% in males and 8% among females, while as the household size increases to a relatively large one (from 8 to 15 people) the percentage increases to 8% in males and 14% among females and in households with very large sizes (from 16 to 39 people) the percentage of children never attending school rises to an extent of 14 % among males and 20% among females.

As for the dropout percentage; in both normal size and large size households, the percentage of dropouts in males is more than that of females but by a small percentage, while in very large households females' dropout percentage is more than that of males by almost 2%. *(See Appendix tables 22, 23, and 24).*

After conducting the appropriate tests it was found that there is a **weak significant relationship** between household size and school attendance status.

However, it should be noted that these percentages even though they might indicate a relationship between household size and school attendance status, this significance could be misleading according to the below chart which shows the fact that the majority of the sample live in a household ranging from 2 to 7 while only 455 of those sampled live in households ranging from 16 to 39 and so the relationships between them would not be accurate. *(See Appendix table 25).*

Graph (7)

The different categories of household size
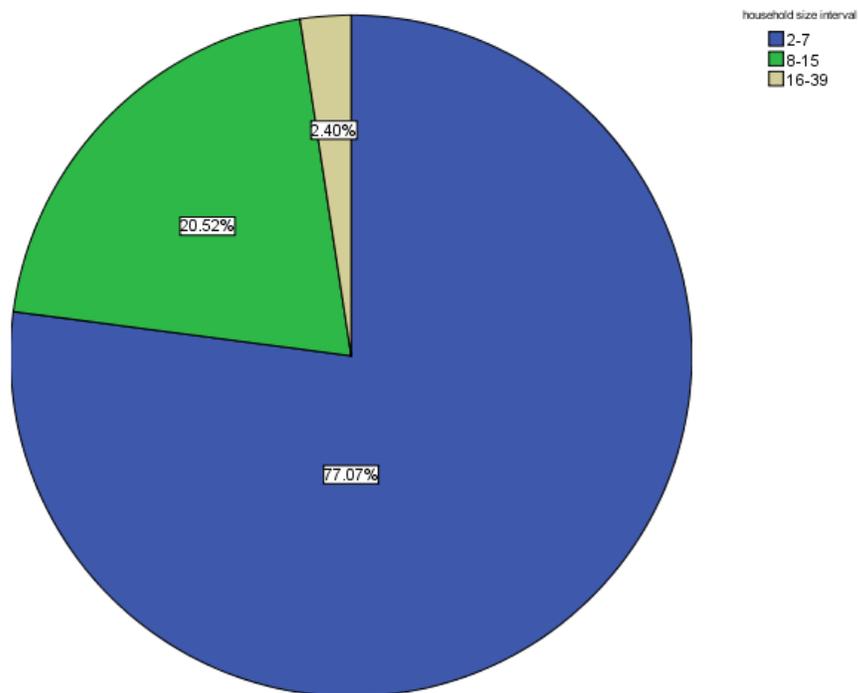
Source: Authors calculations using Egypt DHS data 2008.

In addition to the size of the household, presence of children younger than 5 in the household can jeopardize the chances of the children of age 5 to15 to go to school. It is shown here that the percentage of children who live in households that have more than three children under 5 years old and have never attended school is a lot higher than those who live in households less than three children under 5 years old and have never attended school (13.5% and 8% respectively), and hence, it was shown that there is a **significant weak relationship** between the number of children under 5 years old in a household and the school attendance status of the child. So we can say that the more the number of children under 5 in the household, the less likely the other children will attend school. *(See Appendix tables 26 and 27).*

Chapter IV

Multivariate Analysis of the Socio-Economic Variables Affecting Gender Discrimination in Basic Education

4.1) Overview:

Upon doing the analysis, multinomial logistic regression seemed to be the appropriate model to use in predicting whether a child drops out of school, has never attended school or is attending school. However, due to the nature of the distribution of the School Attendance Status variable which shows that the percentage of those who attend school is significantly higher (88.5%) than those who have never attended (8.3%) and those who drop out (3.3%), multinomial logistic regression resulted in a model whose classification table could not be accepted. Therefore, binary logistic regression was alternatively used with the two categories being "attending school" and "not in school" for the dependant variable "school attendance status". *(See appendix table 27).*

The model was found to be significant in predicting both male and female school attendance status and hence we conclude that this model is a good fit for the prediction. However, the large difference in percentages between those who attend school and those who don't attend resulted in a bad classification table when a cut-off point of (0.5) was used. Accordingly, a cut-off point of (0.1) was used instead to reach a model that can correctly predict those who don't attend school. *(See Appendix table 29).*

4.2) Model fitting:

Now after fitting the model twice, once for boys and once for girls, we found that not all our variables are of significant effect. Furthermore, some variables were found to be

significant for males only but not for females. Accordingly, the fitted models are as follows:

(See Appendix table 30).

For Males:

Logit [π] = log [$\frac{\pi}{1-\pi}$] = 0.059 (Household Size) – 0.281 (No. of children <5) – 0.419 (Rural) + 0.515 (Female) + 0.025 (Age of Head) – 0.474 (Poorer) – 0.830 (Middle) – 0.962 (Richer) – 1.706 (Richest) – 0.424 (Primary) – 1.864 (Secondary) – 1.884 (Higher) – 2.912 (Son/daughter) – 3.814 (grandchild) – 3.526 (other relative)

While for Females:

Logit [π] = log [$\frac{\pi}{1-\pi}$] = -2.794 – 0.455 (Rural) + 0.027 (Age of Head) – 0.927 (Poorer) – 1.432 (Middle) – 1.541 (Richer) – 2.095 (Richest) – 0.545 (Primary) – 1.771 (Secondary) – 2.732 (Higher) – 1.148 (grandchild) + 1.441 (Brother/sister) + 2.341 (Adopted/foster child)

4.3) Model interpretation:

- The place of residence has an effect on the school attendance status for both boys and girls. The odds of a boy/girl who live in a rural area to not attend school is almost half (0.6) the odds of those who live in an urban area. In other words, boys and girls who live in urban areas are more likely to attend school.

- Also the age of the head of the household is very relevant to the school attendance status, as the increase in the age of the head by 1 year increases the odds of not attending school for boys by 2.5% and for girls by 2.7%.

- Regarding the wealth status of the household, which is expressed by using the wealth index, we found that as the family gets wealthier the odds of not attending school gets lower, and that applies for boys and girls. However the wealth status affects girls 2 times the boys. For example, for boys the odds of not attending school for those in middle class is nearly half (0.4) the odds of not attending for the poorest class, while for girls it's one-fifth (0.2).

- As for the educational status of the mother, we can see that the increase in the educational status decreases the odds of not attending school; this applies for boys and girls. For example, the odds of a boy/girl who has a mother with primary education to not attend school is approximately 0.6 times the odds of those who have a mother with no education, while the odds of a boy/girl who has a mother with higher education to not attend school is approximately 0.1 the odds of those who have a mother with no education.

- Regarding the relationship to head, being the son, the grandchild, or adopted by the head of the household, the odds of a boy to not attend school are 0.054, 0.022, 0.029 (respectively) times the odds if the boy was the head himself. But for girls it's different, as a girl being grandchild, sister, or adopted by the head of the household has higher odds of not attending school than if she was the daughter of the head (0.317, 4.22, and 10.39 respectively.

- As for the variables household size, number of children less than 5 and the sex of the head of the household; they were not found to have a significant effect on whether girls attended school or not, however, they did have a significant role in determining the educational status of boys;

- The increase in the number of household members by 1 increases the odds of not attending school for boys by 6%.

- Also the increase in the number of children less than 5 years by 1 child decreases the chances of not attending school for boys by 25%. However this is inconsistent with the initial findings of the study and it is also unrealistic, but this could be explained due to the large percentage of the missing variables in the regression model which is caused by the inclusion of the variable of "Mother's Educational

Level" which is not part of the household file but was found to be highly significant and indispensible in the model.

- When the head of the household is female, the odds of a boy to not attend school are 1.67 times the odds of not attending school if the head is a male.

Table (6): Odds ratio of the significant variables in the logistic regression:

significant variables	child is male (odds ratio)	child is female (odds ratio)
place of residence (base category: urban)		
• rural	.658	.634
age oh head of house hold (continuous variable)	1.025	1.027
wealth index (base category: poorest)		
• poorer	.623	.396
• middle	.436	.239
• rich	.382	.214
• richest	.182	.123
education statues of mother (base category: no education)		
• primary	.654	.580
• secondary	.155	.170
• higher	.152	.065
house hold size (continuous variable)	1.061	insignificant

number of children less than 5	.755	insignificant
sex of head (base category: male) • female	 1.674	 insignificant
relationship to head • head • son/daughter • grand child • brother/sister • adopted/foster child • other relative	 base category .054 .022 insignificant insignificant .029	 _ base category .317 4.226 10.393 insignificant

Source: Authors calculations using Egypt DHS data 2008.

Chapter V

Conclusions and Recommendations

5.1) Conclusion:

Our study primarily was designated to determine the social and economic factors that affect gender discrimination in basic education using data from EDHS 2008 and also examining the factors affecting the school attendance status of children from 5 to 15 years in general.

We have found that despite the considerable efforts made in the past years to improve enrollment in schools, much work still needs to be done in this regard. Measures need to be taken to eliminate the factors that pose a threat to children's learning, especially for girls.

Our study showed that the percentage of children never attending school is higher in females than it is in males, which means that further attention needs to be given to enroll females in schools. However, we also found that male dropouts are higher than female dropouts in basic education, which could also indicate a serious problem in the educational system that would not enable boys to complete their education.

Furthermore, gender discrimination in never attending school is highly affected by the wealth status, for it was shown that the difference between females and males never attending school is very high in the poorest families but this gap decreases as the wealth of the family increases. In addition, the opposite occurs in the dropout percentage; for in the poorest families males tend to drop out more than females and this difference also decreases as the wealth increases.

Another significant factor that was found to affect the gender biases in education is the place of residence of the child; in general it was found that the attendance percentage is higher in urban areas than rural. Moreover, female never attendance is also more than males' in rural areas and male dropouts is more than female as well. However, this gender bias is smaller in urban residences.

As for the age of the head of the household, it was found that when a household's head is relatively young or too old, males tend to dropout more or never attend school from the beginning. This is concurrent with the assumption that they do not go to school either to help out the head of the household in supporting the family or because the head is not aware of the importance of education due to his/her young age.

The living status of a child's parent was also found to have an effect on his/her school attendance. It affected males more than females because when both parents are dead, the boy tends to drop out of school or never go in order to work and help provide for the family.

Another social factor is the educational status of children's mothers; we can see that the increase in the educational status decreases the odds of not attending school. Especially when the mothers are not educated, the difference between male and female dropout is 4% and that between female and male never attendance is 6% which indicates a level of gender discrimination when mothers are uneducated.

We also found that the relationship of children to the head of the household affects their education whether they're males or females. When a child is the son/daughter of the head of the household, he tends to attend school more while the highest percentage of dropouts is when the child is the son or daughter-in-law of the head. Furthermore, the highest percentages of those who have never attended school are the siblings of the head.

Because of the Binary nature of our used dependant variable (not attending school and attending school) we used binary logistic regression which showed us that all the previous variables where found to be significant for both males and females. However, the sex of the household head, the household size and the number of children under 5 years where found to have a significant effect on males' education only but not females'.

5.2) Recommendations:

Taking into account the previously mentioned factors, the following recommendations should be considered in order to achieve gender equality in basic education:

- Focusing on raising school enrollment and efficiency in rural areas, giving particular attention to the poorest areas and underlining the importance of girls' education in them.

- Awareness campaigns and community outreach programs should also be intensified in these areas to emphasize on allowing children to complete their education with a special attention to boys.

- Incentives should also be provided to poor families on the condition that they enroll their children in schools to avoid boys dropping out to help out in providing for their families. And also to avoid girls never being sent to school to assist in taking care of the household.

- Schools that are closer to rural homes, especially the poor ones, should also be built to create further incentive to educate children.

- Paying more attention to mothers' education is also crucial to reduce gender discrimination; hence, eradicating adults' illiteracy would also result in higher children enrollment in basic education.

List of References:

- "Economic Research Forum." Untitled Document. http://www.erf.org.eg/cms.php?id=publication_details&publication_id=41 (accessed December 2, 2010).

- El-Daw A. Suliman, Safaa El-Kogali, "why are children out of school?" http://www.mop.gov.eg/PDF/MDGs%20report%202008.pdf

- http://mpra.ub.uni-muenchen.de/685/1/MPRA_paper_685.pdf

- "Human Rights: Promoting Gender Equality in and through Education." ERIC Worlds' largest digital library of education literature. http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=EJ774811&ERICExtSearch_SearchType_0=no&accno=EJ774811 (accessed December 1, 2010).

- http://wwwwds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2001/02/17/000094946_01020605310354/Rendered/PDF/multi_page.pdf

- Roudi-Fahimi, Farzaneh , and Valentine M. Moghadam. "Empowering Women, Developing Society: Female Education in the Middle East and North Africa - Population Reference Bureau." Population Reference Bureau. www.prb.org/Publications/PolicyBriefs/EmpoweringWomenDevelopingSocietyFemaleEducationintheMiddleEastandNorthAfrica.aspx (accessed December 1, 2010).

- "UNESCO Institute for Statistics." UNESCO Institute for Statistics. http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=2200 (accessed May 11, 2011).

- USAID's Office of Women in Development by the EQUATE Project, Management Systems International. "Education from a Gender Equality Perspective." USAID. www.usaid.gov/our_work/cross-cutting_programs/wid/pubs/Education_From_a_Gender_Equality_Perspective_Final.pdf (accessed December 1, 2010).

- Zahran, Hatem Ibrahim. 2006. "Socioeconomic and demographic factors affecting drop-out in basic education in Egypt". Biostatistics and Demography.

Appendix:

Table (1)

Measure of strength of relation:

		Value	Approx. Sig.
Nominal by Nominal	Phi	.216	.000
	Cramer's V	.152	.000
	Contingency Coefficient	.211	.000
N of Valid Cases		9217	

    a. Sex of child = Female

Table (2)

Measure of strength of relation:

		Value	Approx. Sig.
Nominal by Nominal	Phi	.158	.000
	Cramer's V	.112	.000
	Contingency Coefficient	.156	.000
N of Valid Cases		9664	

a. Sex of child= Male

Table (3)
Relation between wealth index and school attendance status

% within Wealth index					
		School Attendance Status			
		never attended	droup out	other	Total
Wealth index	Poorest	19.9%	4.4%	75.7%	100.0%
	Poorer	9.0%	3.7%	87.3%	100.0%
	Middle	6.5%	2.6%	90.8%	100.0%
	Richer	5.4%	2.1%	92.4%	100.0%

Richest		5.0%	.7%	94.3%	100.0%
Total		9.7%	2.8%	87.4%	100.0%

a. Sex of child= Female

Table (4)

Relation between wealth index and school attendance status

% within Wealth index

		School Attendance Status			
		never attended	drop out	other	Total
Wealth index	Poorest	10.8%	6.8%	82.4%	100.0%
	Poorer	6.8%	5.4%	87.8%	100.0%
	Middle	5.8%	3.5%	90.8%	100.0%
	Richer	4.4%	2.3%	93.3%	100.0%
	Richest	4.1%	.4%	95.5%	100.0%
Total		6.6%	3.9%	89.4%	100.0%

a.   Sex of child= Male

Table (5)

Relation between wealth index and school attendance status

% within Type of place of residence

		School Attendance Status			
		never attended	droup out	attending school	Total
Type of place of residence	Urban	5.5%	2.9%	91.7%	100.0%
	Rural	7.4%	4.6%	88.0%	100.0%
Total		6.7%	3.9%	89.4%	100.0%

a. Sex of child = Male

Table (6)
Relation between place of residence and school attendance status

% within Type of place of residence

		School Attendance Status			
		never attended	droup out	attending school	Total
Type of place of residence	Urban	6.5%	2.3%	91.2%	100.0%
	Rural	11.8%	3.2%	85.0%	100.0%
Total		9.7%	2.9%	87.4%	100.0%

a.   Sex of child = Female

Table (7)
Relation between sex of household and school attendance status

% within Sex of head of household

		School Attendance Status			
		never attended	drop out	Attending School	Total
Sex of head of household	Male	8.3%	3.3%	88.4%	100.0%
	Female	6.5%	4.2%	89.3%	100.0%
Total		8.1%	3.4%	88.4%	100.0%

Table (8)
Measure of strength of relation:

		Value	Approx. Sig.
Nominal by Nominal	Phi	.020	.020
	Cramer's V	.020	.020
	Contingency Coefficient	.020	.020
N of Valid Cases		18883	

Table (9)
Relation between sex of child and school attendance status

			School Attendance Status			
			never attended	droup out	other	Total
Sex of household member	Male	Count	7	8	25	40
		% within Sex of household member	17.5%	20.0%	62.5%	100.0%
	Female	Count	7	6	33	46
		% within Sex of household member	15.2%	13.0%	71.7%	100.0%
Total		Count	14	14	58	86
		% within Sex of household member	16.3%	16.3%	67.4%	100.0%

a. age of head of hh in intervals = 15-25

Table (10)
Relation between sex of child and school attendance status

			School Attendance Status			
			never attended	droup out	other	Total
Sex of household member	Male	Count	568	339	7934	8841
		% within Sex of household member	6.4%	3.8%	89.7%	100.0%
	Female	Count	775	236	7410	8421
		% within Sex of household member	9.2%	2.8%	88.0%	100.0%
Total		Count	1343	575	15344	17262
		% within Sex of household member	7.8%	3.3%	88.9%	100.0%

a. age of head of hh in intervals = 26-60

Table (11)
Relation between sex of child and school attendance status

| | | | School Attendance Status | | | |
			never attended	drop out	other	Total
Sex of household member	Male	Count	68	33	683	784
		% within Sex of household member	8.7%	4.2%	87.1%	100.0%
	Female	Count	113	21	616	750
		% within Sex of household member	15.1%	2.8%	82.1%	100.0%
Total		Count	181	54	1299	1534
		% within Sex of household member	11.8%	3.5%	84.7%	100.0%

a. age of head of hh in intervals = 60-90

Table (12)
Measures of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.131	.000
	Cramer's V	.092	.000
	Contingency Coefficient	.130	.000
N of Valid Cases		18885	

Table (13)

Relation between relationship to head and school attendance status

% within Relationship to head

| | School Attendance Status | | | |
	never attended	droup out	attending school	Total

Relationship to head	Head		50.0%	50.0%	100.0%
	Wife or husband	10.0%	70.0%	20.0%	100.0%
	Son/daughter	7.7%	3.4%	89.0%	100.0%
	Son/daughter-in-law		80.0%	20.0%	100.0%
	Grandchild	13.3%	2.1%	84.6%	100.0%
	Brother/sister	14.0%	9.3%	76.6%	100.0%
	Other relative	9.2%	3.8%	87.0%	100.0%
	Adopted/foster child	7.6%	7.6%	84.8%	100.0%
	Not related			100.0%	100.0%
Total		8.1%	3.4%	88.4%	100.0%

Table (14)

Measures of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.063	.000
	Cramer's V	.063	.000
	Contingency Coefficient	.063	.000
N of Valid Cases		17795	

Both parents alive

Table (15)

Measures of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.082	.030
	Cramer's V	.082	.030
	Contingency Coefficient	.081	.030
N of Valid Cases		1054	

One parent alive

Table (16)
Relation between sex of child and school attendance status

			school attendance statues			
			never attended	droup out	other	Total
Sex of household member	Male	Count	608	340	8149	9097
		% within Sex of household member	6.7%	3.7%	89.6%	100.0%
	Female	Count	862	244	7592	8698
		% within Sex of household member	9.9%	2.8%	87.3%	100.0%
Total		Count	1470	584	15741	17795
		% within Sex of household member	8.3%	3.3%	88.5%	100.0%

a. father and mother alive or not = both parents alive

Table (17)
Relation between sex of child and school attendance status

			school attendance statues			
			never attended	droup out	other	Total
Sex of household member	Male	Count	30	38	482	550
		% within Sex of household member	5.5%	6.9%	87.6%	100.0%
	Female	Count	33	17	454	504
		% within Sex of household member	6.5%	3.4%	90.1%	100.0%
Total		Count	63	55	936	1054
		% within Sex of household member	6.0%	5.2%	88.8%	100.0%

a. father and mother alive or not = one parent alive

Table (18)

Measure of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.491	.039
	Cramer's V	.491	.039
	Contingency Coefficient	.440	.039
N of Valid Cases		27	

Both parents dead

Table (19)
Relation between sex of child and school attendance status

			school attendance statues			
			never attended	drop out	other	Total
Sex of household member	Male	Count	5	2	9	16
		% within Sex of household member	31.3%	12.5%	56.3%	100.0%
	Female	Count	0	0	11	11
		% within Sex of household member	.0%	.0%	100.0%	100.0%
Total		Count	5	2	20	27
		% within Sex of household member	18.5%	7.4%	74.1%	100.0%

a. father and mother alive or not = both parents dead

Table (20)

Measures of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.119	.000
	Cramer's V	.119	.000
	Contingency Coefficient	.118	.000
N of Valid Cases		4742	

Mother's highest educational level = No education

Table (21)
Relation between sex of child and school attendance status

			school attendance statues			
			never attended	droup out	attending	Total
Sex of household member	Male	Count	114	251	2091	2456
		% within Sex of household member	4.6%	10.2%	85.1%	100.0%
	Female	Count	232	154	1900	2286
		% within Sex of household member	10.1%	6.7%	83.1%	100.0%
Total		Count	346	405	3991	4742
		% within Sex of household member	7.3%	8.5%	84.2%	100.0%

a. Mother's highest educational level = No education

Table (22)
Relation between sex of child and school attendance status

% within Sex of household member

		School Attendance Status			
		never attended	drop out	Attending School	Total
Sex of household member	Male	6.1%	3.5%	90.4%	100.0%
	Female	8.2%	2.5%	89.4%	100.0%
Total		7.1%	3.0%	89.9%	100.0%

a. household size interval = normal

Table (23)
Relation between sex of child and school attendance status

% within Sex of household member

		School Attendance Status			
		never attended	drop out	Attending School	Total
Sex of household member	Male	8.1%	5.8%	86.1%	100.0%
	Female	14.2%	4.1%	81.7%	100.0%
Total		11.2%	4.9%	83.9%	100.0%

a. household size interval = large

Table (24)
Relation between sex of child and school attendance status

% within Sex of household member		School Attendance Status			
		never attended	drop out	Attending School	Total
Sex of household member	Male	14.0%	2.6%	83.3%	100.0%
	Female	19.9%	4.1%	76.0%	100.0%
Total		16.9%	3.3%	79.7%	100.0%

a. household size interval = vary large

Table (25)

Measures of strength of relation

		Value	Approx. Sig.
Nominal by Nominal	Phi	.091	.000
	Cramer's V	.065	.000
	Contingency Coefficient	.091	.000
N of Valid Cases		18885	

Table (26)

Relation between children under five and school attendance status

% within children under 5 intervals		School Attendance Status			
		never attended	drop out	Attending School	Total
children under 5 years	0-3	8.0%	3.4%	88.6%	100.0%

		13.5%	3.5%	83.0%	100.0%
	more than 3				
Total		8.1%	3.4%	88.4%	100.0%

Table (27)
Classification table for the model

	Predicted			
Observed	never attended	drop out	Attending School	Percent Correct
never attended	29	1	359	7.4%
drop out	7	3	551	.5%
Attending School	65	1	9670	99.3%
Overall Percentage	.9%	.1%	99.0%	90.8%

Table (28)
Model summary

Sex of household member	Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
Male	1	2787.992[a]	.072	.163
Female	1	2654.842[b]	.100	.220

Table (29)
Classification Table

		Predicted		
		School Attendance 2		
Sex of household member	Observed	Attending School	Not in School	Percentage Correct

Sex of household member						
Male	Step 0	School Attendance Attending 2 School	4954	0		100.0
		Not in School	470	0		.0
		Overall Percentage				91.3
Female	Step 0	School Attendance Attending 2 School	4782	0		100.0
		Not in School	480	0		.0
		Overall Percentage				90.9

a. Constant is included in the model.

b. The cut value is .100

Table (30)

Variables in the equation

Sex of household member			B	S.E.	Wald	df	Sig.	Exp(B)
Male	Step 1ᵃ	Household size	.059	.022	7.007	1	.008	1.061
		No. of children <5	-.281	.075	13.978	1	.000	.755
		Rural	-.419	.132	10.051	1	.002	.658
		Female	.515	.232	4.916	1	.027	1.674
		Age of head	.025	.006	15.686	1	.000	1.025
		Wealth index			49.766	4	.000	
		Poorer	-.474	.125	14.390	1	.000	.623
		Middle	-.830	.158	27.578	1	.000	.436
		Richer	-.962	.202	22.747	1	.000	.382
		Richest	-1.706	.343	24.730	1	.000	.182
		Mother's highest educational level			78.921	3	.000	
		Primary	-.424	.140	9.188	1	.002	.654
		Secondary	-1.864	.221	71.137	1	.000	.155
		Higher	-1.884	.500	14.199	1	.000	.152
		Both parents alive	.430	.275	2.447	1	.118	1.538

			B	S.E.	Wald	df	Sig.	Exp(B)
		Relationship to head			29.789	5	.000	
		Son/daughter	-2.912	1.406	4.288	1	.038	.054
		Grand child	-3.814	1.455	6.876	1	.009	.022
		Brother/sister	-1.623	1.451	1.252	1	.263	.197
		Other relative	-3.526	1.491	5.597	1	.018	.029
		Adopted/foster child	-.397	1.575	.064	1	.801	.672
		Constant	-.014	1.399	.000	1	.992	.986
Female	Step 1[a]	Household size	.045	.024	3.374	1	.066	1.046
		No. of children <5	.006	.070	.008	1	.929	1.006
		Rural	-.455	.141	10.495	1	.001	.634
		Female	.162	.264	.375	1	.540	1.175
		Age of head	.027	.006	18.658	1	.000	1.027
		Wealth index			119.564	4	.000	
		Poorer	-.927	.128	52.104	1	.000	.396
		Middle	-1.432	.177	65.534	1	.000	.239
		Richer	-1.541	.218	49.763	1	.000	.214
		Richest	-2.095	.353	35.293	1	.000	.123
		Mother's highest educational level			74.353	3	.000	
		Primary	-.545	.147	13.671	1	.000	.580
		Secondary	-1.771	.223	63.238	1	.000	.170
		Higher	-2.732	.807	11.467	1	.001	.065
		Both parents alive	.550	.323	2.905	1	.088	1.734
		Relationship to head			29.129	5	.000	
		Grand child	-1.148	.287	16.021	1	.000	.317
		Brother/sister	1.441	.510	7.984	1	.005	4.226
		Other relative	-.094	.370	.064	1	.800	.910
		Adopted/foster child	2.341	.746	9.839	1	.002	10.393
		Not related	-17.986	5.508E4	.000	1	1.000	.000
		Constant	-2.794	.479	33.978	1	.000	.061

a. Variable(s) entered on step 1: HV009, HV014, HV025, HV219, HV220, HV270, SHA61,
father_mother_alive, HV101.

[i] "UNESCO Institute for Statistics." UNESCO Institute for Statistics. http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=2200 (accessed May 11, 2011).

[ii] "Economic Research Forum." Untitled Document. http://www.erf.org.eg/cms.php?id=publication_details&publication_id=41 (accessed December 2, 2010).

[iii] El-Daw A. Suliman, Safaa El-Kogali, "why are children out of school?" http://www.mop.gov.eg/PDF/MDGs%20report%202008.pdf

[iv] Roudi-Fahimi, Farzaneh , and Valentine M. Moghadam. "Empowering Women, Developing Society: Female Education in the Middle East and North Africa - Population Reference Bureau." Population Reference Bureau

[v] Zahran, Hatem Ibrahim. 2006. "Socioeconomic and demographic factors affecting drop-out in basic education in Egypt" Institute of Statistical Studies and research, Cairo University.

[vi] USAID's Office of Women in Development by the EQUATE Project, Management Systems International. "Education from a Gender Equality Perspective." USAID. www.usaid.gov/our_work/cross-cutting_programs/wid/pubs/Education_From_a_Gender_Equality_Perspective_Final.pdf (accessed December 1, 2010).

[vii] "Human Rights: Promoting Gender Equality in and through Education." ERIC Worlds' largest digital library of education literature. http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=EJ774811&ERICExtSearch_SearchType_0=no&accno=EJ774811 (accessed December 1, 2010).

[viii] http://mpra.ub.uni-muenchen.de/685/1/MPRA_paper_685.pdf

[ix] http://wwwwds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2001/02/17/000094946_01020605310354/Rendered/PDF/multi_page.pdf