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Women's Empowerment and Child's Education in Egypt in 2000:

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Most poor women in developing countries have never been allowed to think for themselves or to make any decision unless the husband has been absent; because the majority of them grow up believing that it is the natural position.

During the past decade, Egypt adopted several targets aiming at discussing school's enrolment and reducing the gender gap in basic education through many ways: by reducing the direct and indirect costs of schooling and ensuring girls access to schools.

During the last decade, a great deal of attention has been given to women's status – especially in the Arab world – as a significant factor in demographic behavior. Since the mid-1980, the term empowerment has become popular in the field of women's development. Empowerment has replaced terms such as welfare, community participation, and poverty alleviation. The International Conference on Population and Development (ICPD), which was held in Egypt in 1994, brought to the fore of the population community the concept of women's empowerment. Drawing on the growing use of this concept in the development field, the ICPD Program of Action devoted a full chapter to "Gender Equality, Equity, and Empowerment of Women" (United Nations, 1994).

The Ministry of Education (MOE) took the leading role in reducing costs of schooling and ensuring girls access, with generous financial assistance and technical cooperation from many international donors like the UNICEF, UNESCO, UNDP & USAID.

1-2- Research Problem

In 1994, the International Conference on Population and Development (ICPD) was held in Cairo. The conference discussed female empowerment and its consequences on child's well-being and gender discrimination during childhood. Actually, there is a gap between girl and male child in education. Hence, child's education must be linked to women's empowerment to investigate different relationships existing between them.

1-3-The main objective of the study: to investigate the relationship between women's empowerment and child's education in Egypt.

1-4- Review of Literature:

First dimension includes women's empowerment studies

Most demographic research used variables such as women's education and employment status as proxy empowerment levels. Education affects fertility, contraceptive use, women's autonomy, child's mortality and child's schooling. Education is also one of the most important means of empowering women with knowledge, skills and self- confidence which are necessary to participate fully in the development process. Educated women raise healthier children, have lower fertility, and tend to keep their children in school longer as well as exercising their political and legal rights more effectively.

Mason, K. O. (1986) shows that later age at marriage has been associated with increased autonomy through its positive association with education and premarital employment. Work before marriage, current employment and its length, and continuity in employment over time may help provide alternative sources of social identity and financial independence.

Al Riyami, A. (2000) selected two indicators of empowerment from the women's status module: the first indicator measures women's involvement in decision-making. "Who has the final say on..." eight items related to decision-making: (1) what food to cook, (2) household expenditures, (3) children's clothes, (4) children's medicine and health care, (5) problem solving, (6) family planning, (7) having another baby and (8) visiting relatives. An index was created to understand their decision-making power; it is ranges from 0 to 8. According to this index, a woman is considered least empowered if she has index value of 0 and considered most empowered if she has index value of 8.

The second indicator was created to understand women's freedom of movement. "Does your husband allow you to go to .....alone or accompanied by your children?" They may go to six places: (1) shopping, (2) hospital / health center, (3) children's schools, (4) visit relatives, (5) visit friends and (6) go for a walk. This index ranges from 0 to 6; those women with index value of 0 are considered the least empowered while those with index of value of 6 are considered the most empowered women. Results also showed that women become more involved in decisions when they are older, particularly those decisions related to cooking food, family expenditures, having another child and visiting relatives. Urban women take more decisions than those living in rural areas. Freedom

of movement increases as a woman gets older and women working for cash have also more freedom of movement.

Second dimension includes child's education studies

As for children's education, various studies have identified many factors constraining children's school enrolment; other studies have pointed to the high cost of child education for poor families. There are 130 million children in the world who are not enrolled in primary school and 70 % of them are girls (I.C.P.D. 1994).

Sathar, Z. A. (1993, 1987) indicated some factors associated with children school's attendance such as: birth order, father's education, mother's education and ownership of land and non-electrical appliances.

El Daw, A. S. & El Kogali, S.E. (2003) identified the factors affecting children's education in Egypt in terms of access and completion at the basic educational level. Two principal questions guided this study: what are the reasons for school's never attendance? And for children who had ever attended school, what are the main reasons for dropping out before completing the basic level. They also tried to construct a standard of living / wealth index and another index measuring women's role in household decision-making process.

Zahran, H.I. (2006) measured school's dropout among Egyptian children aged 6-15 years. Using EDHS, 2000 data, gender differences in children school's dropout patterns in Egypt are shown. Factors affecting school's dropout are investigated by applying the logistic regression analysis. Results showed that main factors affecting school's dropout were birth order, mother's age, mother's and father's education, father's age, economic level and ever repeating a grade. This last one was the most powerful factor affecting school's dropout. It is positively associated with school's dropout.

1-5- Data source: data used in this study were derived from Egypt Demographic and Health Survey (EDHS, 2000). This survey interviewed a nationally representative sample of 15,573 ever-married women aged 15- 49. Information in education module was collected from the ever-married women aged 15-49 years. Data were collected for (20567) children aged 6- 15 years; the majority of them (88.9%) had ever attended schools. Three types of schools were

attended: (1) public (2) private and (3) religious. More than three out of four children had attended public schools.

1-6- Methodology

The study depends on two methodologies; they are:

First: A descriptive analysis to indicate determinants of women's empowerment and to examine the relationships between variables supposed affecting child's education in Egypt.

Second: The logistic regression model to estimate the probability that an event occurs. The model is used for modeling the relationship between a dichotomous dependent variable and a set of covariates.

1- Child's Education Indicators:

1-1- School Attendance:

The EDHS held in 2000 included a special module that was designed to collect data on children aged 6-15 years. The module included some important questions concerning their school attendance, and if not, they had to give reasons why they had never gone to school. This module included also information on whether children had repeated one or more grades of school and on school's dropout. Mothers were asked how often their children missed school and cited the reasons for missing school.

Information for women's empowerment was relatively limited in EDHS 2000. The survey included one question discussing decision-making: "Who in your family usually has the final say on the following decisions: 1) your own health, 2) making large household purchases, 3) making household purchases for daily needs, 4) visits to family, friends, or relatives and 5) what food should be cooked each day?" Five answers constitute the number of decisions taken by the respondent. Mobility could be assessed by collecting answers of some specific questions: "When you are sick and want to get medical advice or treatment, would you consider each of the following to be a big problem or not for you: (1) knowing where to go (2) getting permission to go (3) having to find transport (4) not wanting to go alone (5) visiting family or friends (6) going to health center". Six answers constitute the number of mobility actions taken by the respondent.

The percentage distribution of children aged 6-15 years of those who had ever attended school and the types of schools are shown in table (1) by some background characteristics such as: gender, type of place of residence, woman's and husband's educational level. The table shows that the proportion of males and those who were living in urban regions had more likely attended schools than females and those who were living in rural regions.

Table (1)

Percentage distribution of children aged 6-15 years by school attendance, types of schools and some background characteristics

Background Characteristics	School Attendance %	Types of Schools %		
		Public	Private	Religious

Gender				
Male	89.7	86.8	5.8	7.4
Female	87.8	88.2	5.5	6.3
Place of residence				
Urban	93.1	83.4	12.7	3.8
Rural	86.0	90.2	0.7	9.1
Woman's education				
No Education	84.1	90.8	0.5	8.7
Primary	93.4	92.0	1.6	6.4
Secondary	94.4	84.6	10.8	4.6
Higher	97.1	55.1	42.0	22.9
Husband's education				
No Education	81.5	90.7	0.5	8.8
Primary	90.6	92.2	1.3	6.5
Secondary	94.2	89.1	5.5	5.4
Higher	96.3	64.3	29.4	6.3
Decision-making levels				
Low	84.6	89.9	2.6	7.5
Medium	89.8	87.5	6.3	6.2
High	91.2	85.3	7.4	7.3
Mobility levels				
Low	85.6	89.9	1.8	8.3
Medium	90.3	88.2	6.1	5.7
High	92.0	83.9	10.2	5.9
Woman's current work				
Yes	91.2	83.5	12.0	4.5
No	88.3	88.4	4.2	7.4
Birth order				
1	96.9	85.5	8.2	6.3
2-3	92.0	87.0	6.4	6.6
4-5	89.3	90.4	1.8	7.8
6+	81.7	89.3	0.5	10.2
Total	88.9	87.4	5.7	6.9

*Note: (All types of association are statistically significant at 1% or lower based on Chi-square test).

The proportion of children who had never attended schools for those living in rural areas (14 %) was twice as much as that of those living in urban areas (6.9%). Women's and husbands' educational levels were associated with school attendance. The proportions of children who had never attended school decrease as women's educational level rises. Similar result is obtained for husbands' educational level. The proportions of children who had ever attended

school increase as husbands' educational level rises. More educated parents may lead to higher proportions of school attendance than those of the illiterate.

Considering decision-making as one of women's empowerment indicators, table (1) shows that there is association between those who ever attended school and decision-making levels. As decision-making level increases, the proportions of those who had ever attended school increase. The proportion of school attendance for mothers belonging to low level of decision–making is less than its correspondent among those mothers whose decision-making level is high with about (7 %). School attendance proportions increase as mobility levels increase.

For currently working women, the table shows a higher proportion of school attendance than that for not currently working. The proportion of children who ever attended private schools and whose mothers are currently working is three times as much as that of those whose mothers are not currently working. Working mothers can better pay school costs of private school than not currently working mothers.

The table also discusses the types of schools. It is clear that the majority of children attended public schools because they are less expensive than private schools. Males are more attending religious schools than females. More than (90%) of those living in rural areas have attended public schools. Religious schools are more attended in rural areas than in urban areas by about 2.4 times as much. The proportions of attending public and religious schools decrease as women's educational level rises, while attending private schools – which is higher for females than males - increases as women's educational level increases. A similar result is obtained for husbands' educational level but the proportion of children attending private schools whose fathers are highly educated is higher by (12%) than those whose mothers are highly educated.

As birth order increases, the proportions of school attendance decline and the proportions of attending private schools also decline while the proportions of attending religious schools increase.

The previous section indicates that high proportions of school attendance are observed for male students as well as for highly educated parents and for those living in urban areas and also for low

birth order and for those whose mothers belong to a high level of decision-making. The proportions of school attendance were low for females who attended public schools, lived in rural areas, whose parents were less educated and their mothers were less empowered.

1-1-1- School attendance and Decision–making:

This section discusses school attendance by women's decision - making and some selected background characteristics such as: gender, place of residence, woman's and husband's education, woman's current work and birth order. Three levels of decision-making used before are applied in this section. It is supposed that women's decision-making is associated with school attendance.

Table (2) shows the proportion of those ever attended school by their mothers' level of decision–making and some selected variables. For all decision-making levels, the table shows that the proportions of males attended school and those who are living in urban areas are higher than those of females and of those living in rural areas as a result of the prevailing customs and traditions for both sexes and in both areas.

As decision-making level increases, the correspondent proportion of attending children in its turn increases for both males and females. Also as decision-making level increases, the correspondent proportion of attending children in its turn increases for both urban and rural areas. There is a gap between proportions of both low and medium levels, more than between the medium and the high levels for both sexes and regions.

Similar results for both woman's and husband's education are obtained. As decision-making level increases, the proportion of their children who ever attended schools increases for almost educational levels except for husband's higher education. For both parents, the proportions of children who ever attended school reached their maximum values at the highest educational level reached by mother and father and the high level of decision-making.

High proportions of school attendance are found for currently working women than proportions for those who are not currently working. This result is true for all decision-making levels.

Table (2

Percentage distribution of children aged 6-15 years by school attendance, decision-making levels of their mothers and some background characteristics

Background Characteristics	Decision-making Levels		
	Low	Medium	High
Gender			
Male	85.8	90.7	92.0
Female	83.3	89.0	90.4
Place of residence			
Urban	90.5	93.7	93.9
Rural	82.3	87.2	88.9
Woman's education			
No Education	80.9	85.7	86.2
Primary*	92.2	93.7	94.1
Secondary / Higher	92.1	95.3	95.7
Husband's education			
No Education	76.7	83.2	84.8
Primary	88.5	91.2	92.5
Secondary	92.5	94.4	95.2
Higher	92.6	97.8	96.1
Woman's current work			
Yes	85.0	92.1	92.6
No	84.6	89.5	90.7
Birth order			
1	93.9	97.1	98.3
2-3	89.3	92.9	92.9
4-5	85.4	90.8	90.8
6+	78.4	85.7	85.7
Total	84.6	89.9	91.2

Note: (All types of association are statistically significant at 1% or lower based on Chi-square test except for women's primary education).

For all decision-making levels, as birth order increases the proportion of school attendance declines. These proportions are relatively high in both medium and high levels of decision-making than those found among the low level women.

Regarding the previous results, it is concluded that school attendance was positively associated with gender, place of residence, both women's and husbands' education, women's current work and women's decision-making levels. It is negatively associated with birth order.

1-1-2- School attendance and Mobility:

This section discusses school attendance by women's mobility and the selected characteristics mentioned above such as: gender, place of residence, woman's and husband's education, woman's current work and birth order. Three levels of mobility utilized in the previous chapters are applied in this section. It is supposed that women's mobility is also associated with school attendance.

Table (3)

Percentage distribution of children aged 6-15 years by school attendance, mobility levels of their mothers and some background characteristics

Background Characteristics	Mobility Levels		
	Low	Medium	High
Gender			
Male	86.7	91.2	92.5
Female	84.2	89.4	91.5
Place of residence			
Urban	90.1	94.1	94.7
Rural	83.9	87.2	89.3
Woman's education			
No Education	82.0	85.8	87.3
Primary	92.1	94.6	94.4
Secondary / Higher	92.9	95.1	95.9
Husband's education			
No Education	78.8	83.0	85.9
Primary	88.8	91.9	92.0
Secondary	93.1	94.4	95.1
Higher	94.4	96.3	96.9
Woman's current work			
Yes	84.9	92.7	94.4
No	85.6	89.8	91.2
Birth order			
1	95.7	95.1	99.0
2-3	89.2	93.7	93.8
4-5	86.6	91.6	91.5
6+	79.3	82.3	86.2
Total	85.6	90.3	92.0

Note: (All types of association are statistically significant at 1% or lower based on Chi-square test).

Table (3) shows that school attendance is associated with women's ability to move. For all mobility levels, males and children living in urban regions are more likely to attend school than females and children living in rural areas. The table indicates that the higher the women's and husbands' education, the higher the proportions of school attendance. It also shows that the higher the mobility levels, the higher the proportions of attendance. A wide gap in school attendance exists between women whose educational level is low and those whose education is secondary or higher. A similar result is obtained for husbands' education.

For currently working women, school attendance proportions for both medium and high levels are relatively greater than those indicated for not currently working women. Finally, regarding birth order, school attendance is negatively associated with birth order for all mobility levels.

This section is concerned with identifying the correlates of women's empowerment measured by decision-making and mobility and school attendance. Five determinants of school attendance are positively associated with decision-making and mobility: gender, place of residence, woman's current work status and woman's and husband's education. Only one determinant of school attendance is negatively associated with women's empowerment indicators which is birth order.

1-1-3- Children Never Attended School:

It is mentioned at the beginning of this section that the proportion of children aged 6-15 years who had never attended school in Egypt-from EDHS 2000 data- was (11.0%). The next section focuses on this proportion showing the reasons for never attending school by gender, place of residence, mother's education, father's education and mother's empowerment indicated by decision-making. Mothers of children who had never attended school were asked: "What are the most important reasons that your child has never attended school?" Table (4) shows the percentage of children aged 6-15 years who had never attended school by main reasons for never attending. Mothers are able to cite up to three reasons for their children's nonattendance, so that the total percentage shown in tables (4) and (5) is not equal to 100%.

Table (4)
Percentage distribution of children aged 6-15 who had never attended school by main reasons for never attending

Reasons for Never Attending School	%
1-Too expensive	30.8
2-Need in home /farm	7.7
3-Child too young	36.0
4-Child not interested	11.7
5-Child ill /disabled	4.7
6-School of poor quality	0.3
7-School too far	2.5
8-School is not important	5.4
9-Traditions / customs	10.5
10-Other	5.6
Total	2269

The table shows that more than one third of mothers cited that their children had never attended school because they were too young, while less than one third of them reported that their children had never attended school because it was too expensive. One out of ten of them mentioned that the main reason for non-attendance was the child was not interested, and finally, one of them didn't attend school because of traditions and customs.

The final report of EDHS 2000, reported the percentage of children who had never attended school by principal groups. As mentioned in EDHS 2000 report, results show that for children who had never attended school, more than half of their mothers cited child-related factors, particularly the fact that the child was still too young to attend school (36%).

Two in five mothers mentioned cost as a factor of never attending school. One in five mothers mentioned other factors, particularly traditions and customs, as reasons for never attending school. Few of them cited school-related factors as reasons that a child did not start school.

The reasons that mothers gave for their children never having attended school varied by child's gender and residence. Girls were more likely than boys to have never attended school because of school cost or because of customs or traditions. Rural mothers were also likely to cite those factors as reasons that children had never attended school than mothers living in urban areas (El Zanaty, F.2000).

1-2- Grade Repetition:

A mother was asked in EDHS 2000: " Has your child ever repeated a grade of school?" The proportion of children who have ever repeated a grade of school among children aged 6-15 years according to the final report of EDHS 2000, was (14%) in Egypt.

The next section focuses on the characteristics of children who had ever repeated one school grade and their parents. Table (5) presents differences of proportions of children who ever repeated a grade of school by gender, place of residence, woman's education, husband's education, birth order, types of schools, woman's current work, child's age, decision - making and mobility levels.

A descriptive analysis shows that there is association between grade repetition and gender, place of residence, woman's education, husband's education, types of schools, birth order and decision-making levels.

It is indicated that males are more likely to repeat a grade of school than females. Higher proportions of ever repeating a grade among boys may be due to higher proportions of attending school for boys than for girls or girls are aware of the importance of studying more than boys who always want to play.

Rural areas show higher proportions of grade repetition than urban areas. Rural children may be interested in work at farm or by taking care of young brothers. As women's and husbands' educational level increases, the proportion of grade repetition declines.

For all women's educational levels, the proportions of repeating a grade are higher for males than for females, and also are higher for urban children than for rural children. There is a gap between proportions of repetition for children whose mothers are

uneducated and those with secondary or higher education. For the uneducated, the proportion is four times as much as the corresponding highly educated mothers for both males and females. More educated mothers can take care of children's homework and study with them more than uneducated mothers. In urban areas, the proportion of repetition for children whose mothers are uneducated is 5 times as much as that for children whose mothers are highly educated. A similar result is obtained for husband's education. As husband's educational level rises, the proportions of repetition decrease for both males and females and for both urban and rural areas. The proportion of repetition for children of uneducated fathers is more than 5 times as much as the proportion of those whose fathers are highly educated.

Table (5)

Percentage of children aged 6-15 years by grade repetition

Background Characteristics	Gender		Place of Residence		Total
	Males	Females	Urban	Rural	
Woman's education					
No Education	19.3	17.6	22.9	17.0	18.5
Primary	16.2*	14.6*	17.0	14.1	15.4
Secondary / Higher	4.7*	4.6*	4.7*	4.4*	4.6
Husband's education					
No Education	21.1	18.0	25.4	17.8	19.7
Primary	16.3*	16.8*	15.8*	17.0*	16.6
Secondary	9.5*	8.3*	9.6*	8.3*	8.9
Higher	3.7*	4.0*	3.9*	4.2*	4.0
Types of schools					
Public	13.0	12.0	11.8	12.9	12.5
Private	3.8*	3.1*	3.7*	1.4*	3.5
Religious	13.2*	14.6*	16.5*	13.1*	13.9

Decision-making levels					
Low	16.9	14.7	17.1*	15.3*	15.9
Medium	13.9*	13.3*	13.3*	13.9*	13.9
High	14.0	11.0	14.9	10.9	13.0
Mobility levels					
Low	16.8	15.4	16.3*	16.1*	16.2
Medium	12.7*	13.6*	14.2	12.2	13.2
High	13.5	10.3	10.3	13.8	12.0
Woman's current work					
Yes	15.3	14.0	9.0	13.9	11.2
No	12.3	10.1	14.6*	14.8*	14.7
Total	19.3	17.6	13.2	14.6	14.0

* Means that there is no significant association between repeating a grade and the characteristic

As shown in table (5), the proportions of grade repetition increase as the birth order increases. This fact exists for both males and females and for both urban and rural areas.

Types of schools attended are associated with grade repetition. The lowest proportions of repetition are found among those attending private schools.

As decision-making level increases, the proportions of repetition decrease. This result exists for males, urban and rural areas. So we can say that more empowered women have the lowest proportion - of children have ever repeated a grade of school – compared with less empowered women belonging to either the low or the medium level of decision-making.

Children who have ever repeated a grade of school have the following characteristics: they are males, living in urban regions, their mothers and fathers are uneducated, they are joining either public or religious school, belonging to high birth order, their mothers are not currently working, they are less empowered or have a low level of decision-making or of mobility.

1-3- School's Dropout:

A respondent is asked in the questionnaire of EDHS 2000: "What are the most important reasons why your child stopped attending school?"

Stop attending school means school's dropout, and this dropping out is due to many reasons.

To calculate the proportion of dropping out of school we divide the number of children who stopped to attend school by the number of those who ever attended, so school's dropping out percentage is 920 ÷ 18252 = (5%).

Table (6) shows the proportions of children aged 6-15 years who had dropped school by some background characteristics such as child's sex, place of residence, woman's and husband's education, woman's current work status, sex of head of household, birth order, decision-making and mobility levels.

Table (6)
Proportions of children aged 6-15 years by school's dropout and some background characteristics

Background Characteristics	*%*	*Background Characteristics*	*%*
Gender		Place of residence	
Males	5.5	Urban	4.5
Females	4.5	**Rural**	5.4
Woman's education		Husband's education	
No Education	7.7	No Education	9.2
Primary	4.8	Primary	5.4
Secondary	0.3	Secondary	1.5
Higher	—	Higher	0.3
Sex of head of household*		Woman's current work	
Male	5.0	Yes	3.1
Female	5.6	No	5.5
Decision-making levels		Mobility levels	
Low	6.2	Low	6.2
Medium	5.2	Medium	5.2
High	3.7	**High**	3.5

Birth order			
1	4.3		
2-3	3.5		
4-5	5.6		
6+	7.1		

Note: (All types of association are statistically significant at 1% or lower based on Chi-square test).

The descriptive analysis presented in the table above shows that all variables are associated with school's dropout except for the sex of head of household. Males and rural children are more likely to dropout of school than females and urban children. Males may drop out of school searching for work and rural children may drop out of school to help their families in agricultural activities. Woman's and husband's education are negatively associated with school's dropout. Another negative association exists between dropout and both decision-making and mobility levels. This means that as women's empowerment level increases- indicated by decision-making or mobility- the fact of dropping out of school decreases. Woman's current work is negatively associated with school's dropout. Proportions of children who have dropped out of school are more likely to be lower for working mothers than those whose mothers are not currently working. Finally, birth order is positively associated with school's dropout.

Next, the reasons for school's dropout cited by mothers are presented in four sets of factors as mentioned in the section discussing those who have never attended school.

Table (7) shows the proportions of mothers who cited different reasons for school's dropout derived from EDHS 2000 and published in the final report (El Zanaty, F. 2000)

Table (7)

Percentage of mothers citing main reasons for school's dropout for children aged 6-15 years

Reasons for Dropping out of School		%
Cost-related Reasons:	1-Too expensive	8.8
	2-Labor needed at home/farm	11.5
Child-related Reasons:	3-Child failed or repeated grade	40.8
		58.3
	4-Child not interested	0.0
	5- Child got married	3.4
	6-Child ill /disabled	2.6
School-related Reasons:	7-School of poor quality	0.7

Other Reasons:	8-School too far	0.4
	9-Enough education	13.2
	10-School is not important	0.0
	11-Traditions / customs	0.4
	12-Other	
	Total	920

This table is derived from the EDHS 2000 report.

Table (7) indicates that the cost-related reasons for school's dropout include: too expensive and labor needed at home or at farm. Child-related reasons include: child failed or repeated grade, child is not interested, child got married and child is ill or disabled. School-related reasons include: school is of poor quality, school is too far and enough education. Finally, other reasons include: school is not important, traditions/customs and other reasons.

Child is not interested in schooling was the major reason for dropout. Failing or repeating a grade is the second main cause of school's dropout. Costs are also affecting about one-fifth of dropout cases. The belief that school is not important was mentioned as a reason for leaving school for one in eight of the children who dropped out. School-related factors are rarely mentioned as reasons for dropout.

Although the majority of mothers mentioned that child-related factors were the reasons for leaving school, there were some differences by gender and place of residence in dropout reasons. Costs are cited as reason for dropping out of school for females than for males. Mothers also cited costs as the main reason for school's dropout in rural regions.

The independent variables used in the logistic analysis as determinants of child's education are presented in table (8). Value labels are presented in detailed tables.

Table (8)

List of independent variables in child's education models

Variable	*Variable Label*
1- X_1	Place of residence
2- X_2	Child's sex
3- X_3	Woman's education
4- X_4	Husband's education
5- X_5	Woman's work
6- X_6	Woman's age
7- X_7	Decisions
8- X_8	Mobility

9- X_9	Sex of head of household
10- X_{10}	Child's age
11- X_{11}	Birth order
12- X_{12}	Children ever born
13- X_{13}	Regions
14- X_{14}	Ever repeated a grade
15- X_{71}	Decision on health care
16- X_{72}	Decision on making purchase
17- X_{73}	Decision on making household purchase for daily needs
18- X_{74}	Decision on visits
19- X_{75}	Decision on cooked food
20- X_{81}	Visiting health center
21- X_{82}	Visiting relatives & friends
22- X_{83}	Know where to go
23- X_{84}	Get permission to go
24- X_{85}	Have to find a mean of transport
25- X_{86}	Refuse to go alone

2-1-Factors Affecting School attendance:

To identify the background factors affecting child's education in Egypt, this section focuses on two aspects of child's education: school attendance and ever repeating a school grade. A logistic regression analysis is used to analyze factors affecting each child's education aspect.

The first model explains factors affecting school attendance.

The dependent variable $\mathbf{Y_1}$ is the school attendance, which is measured as follows:

= 1 if the child attended school and, = 0 if the child didn't attend school.

The independent variables used in the analysis as determinants of child school attendance and its Value label is presented in table (9).

Thus, the fitted model is as follows:

Y_1 = whether the child attended school in 2000,

= 1 if the child has attended school

= 0 if the child hasn't attended school

$$\ln \{[p(y_1 = 1)] / [1 - p(y_1 = 1)]\} = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots\ldots + \beta_n X_n$$

Where $X_1, X_2, \ldots\ldots\ldots, X_n$ are the independent variables

Table (9)

Independent variables in school attendance model and their value label

Variable	*Label*	*Value label*
Place of residence	X_1	**Urban 1** **Rural 0**
Child's sex	X_2	**Male 1** **Female 0**
Woman's education	X_3	**Not educated reference category** **Primary =1 if education =1 =0 otherwise** **Secondary =1 if education =2 =0 otherwise** **Higher =1 if education =3 =0 otherwise**
Husband's education	X_4	**Not educated reference category** **Primary =1 if education =1 =0 otherwise** **Secondary =1 if education =2 =0 otherwise** **Higher =1 if education =3 =0 otherwise**
Woman's work	X_5	**Yes 1** **No 0**
Decisions	X_7	**1- 5**
Sex of head of household	X_9	**Female 1** **Male 0**
Children ever born	X_{12}	**1- 13**
Region	X_{15}	**Frontier governorates refer. Category** Upper Egypt =1 if region =1 **=0 otherwise** **Lower Egypt =1 if region =2 =0 otherwise** **Urban governorates=1 if region =3 = 0 otherwise**

The percentage of correctly classified cases is 89.0 %, which is a good indicator for the ability of the model to classify data according to child school attendance or not.

All previous independent variables entered the logistic regression model. Only seven variables are significant; these independent variables are the factors that mostly affect school attendance in Egypt. The rest of variables are removed out of the model.

Thus, the fitted model is as follows:

Y_1 = whether the child attended school in 2000,
= 1 if the child has attended school

$= 0$ if the child hasn't attended school

$$\ln \{ [p(y_1 = 1)] / [1 - p(y_1 = 1)] \} = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots\ldots + \beta_n X_n$$

Table (10)

Logistic regression results for determinants of whether the child had attended school, first model

Variables	*B Coef.*	*S.E*	*p. Value*	*Odds Ratio*	*Prob.*
1- Child's sex	**0.245**	**0.048**	**0.000**	**1.277**	**0.5608**
2-Place of residence	**0.270**	**0.069**	**0.000**	**1.309**	**0.5669**
3- Woman's primary education	**0.566**	**0.075**	**0.000**	**1.761**	**0.6378**
4- Woman's secondary education	**0.236**	**0.098**	**0.015**	**1.267**	**0.5589**
5- Woman's high education	**0.513**	**0.241**	**0.034**	**1.670**	**0.6255**
6-Husband's primary education	**0.614**	**0.061**	**0.000**	**1.847**	**0.6488**
7- Husband's secondary education	**0.988**	**0.080**	**0.000**	**2.685**	**0.7286**
8- Husband's high education	**1.106**	**0.158**	**0.000**	**3.022**	**0.7514**
9- Mobility	**0.106**	**0.016**	**0.000**	**1.112**	**0.5265**
10-Upper Egypt	**-0.042**	**0.186**	**0.820**	**0.959**	**0.4895**
11-Lower Egypt	**0.336**	**0.188**	**0.075**	**1.399**	**0.5832**
12-Urban governorates	**-0.016**	**0.201**	**0.938**	**0.985**	**0.4962**
13- Birth order	**-0.117**	**0.053**	**0.027**	**0.890**	**0.4709**
14- Woman's work	**-0.189**	**0.072**	**0.009**	**0.828**	**0.4530**
15- CEB	**-0.079**	**0.018**	**0.000**	**0.924**	**0.4802**
16- Child's age	**.075**	**0.007**	**0.000**	**1.078**	**0.5188**
17- Woman's age	**0.028**	**0.006**	**0.000**	**1.029**	**0.5071**
Constant	**-0.054**	**0.243**			

Table (10) shows that husband's education is the main factor affecting school attendance. Children whose fathers are highly educated were about 3 times as many as those whose fathers are uneducated. As child's age increases his attendance at school rises. A similar result is obtained for the number of children ever born. Upper Egypt and urban governorates are not significant variables affecting school attendance. Children who are living in Lower Egypt are attended schools 1.4 times as much as those living in frontiers governorates. Male children school attendance is about twice as much as that of female children. Woman's current work is negatively related to school attendance. Woman's education is positively associated with school attendance but the primary education is the most important category affecting school attendance. Woman's mobility is also positively associated with school attendance. An urban child is more likely to attend school than a rural child by about 1.6 times. A negative association exists between woman's current work, birth order, number of children ever born and school attendance.

$$\ln \{[p(y_1=1)] / [1 - p(y_1=1)]\} = -0.054 + 0.245\ X_2 + 0.270\ X_1 + 0.566\ X_{31} + 0.236\ X_{32} + 0.513\ X_{33} + 0.614\ X_{41} + 0.988\ X_{42} + 1.106\ X_{43} + 0.106\ X_8 - 0.042\ X_{131} + 0.336\ X_{132} - 0.016\ X_{133} - 0.117\ X_{11} - 0.189\ X_5 - 0.079\ X_{12} + 0.075\ X_{10} + 0.028\ X_6$$

The second model explains factors affecting school attendance using each decision and each place separately. The percentage of correctly classified cases remains the same as mentioned above. A same list of independent variables is applied but decisions and places are replaced by five decisions and six places defined and measured as mentioned in table (11):

Table (11)
Decision-making and mobility variables in school attendance model and their value label

Variable	*Label*	*Value label*	
Decision on health care	X_{71}	**Yes**	**1**
		No	**0**
Decision on making purchase	X_{72}	**Yes**	**1**
		No	**0**
Decision on making hh. purchase for daily needs	X_{73}	**Yes**	**1**
		No	**0**
Decision on visits	X_{74}	**Yes**	**1**
		No	**0**
Decision on cooked food	X_{75}	**Yes**	**1**
		No	**0**
Visiting health center	X_{81}	**Yes**	**1**
		No	**0**
Visiting relatives and friends	X_{82}	**Yes**	**1**
		No	**0**
Know where to go	X_{83}	**Yes**	**1**
		No	**0**
Get permission to go	X_{84}	**Yes**	**1**
		No	**0**
Have to find a mean of transport	X_{85}	**Yes**	**1**
		No	**0**
Refuse to go alone	X_{86}	**Yes**	**1**
		No	**0**

Table (12)
Logistic regression results for determinants of whether the child had attended school, second model

Variables	*B*	*S.E*	*p.*	*Odds*	*Prob.*

	Coef.		*Value*	*Ratio*	
1- Child's sex	**0.244**	**0.048**	**0.000**	**1.276**	**0.5606**
2-Place of residence	**0.276**	**0.069**	**0.000**	**1.318**	**0.5686**
3- Woman's primary education	**0.571**	**0.075**	**0.000**	**1.770**	**0.6390**
4- Woman's secondary education	**0.245**	**0.098**	**0.015**	**1.278**	**0.5610**
5- Woman's high education	**0.518**	**0.241**	**0.034**	**1.678**	**0.6266**
6-Husband's primary education	**0.609**	**0.061**	**0.000**	**1.839**	**0.6478**
7-Husband's secondary education	**0.983**	**0.080**	**0.000**	**2.672**	**0.7277**
8- Husband's high education	**1.097**	**0.158**	**0.000**	**2.996**	**0.7497**
9-Upper Egypt	**-0.046**	**0.186**	**0.820**	**0.955**	**0.4885**
10-Lower Egypt	**0.341**	**0.188**	**0.075**	**1.406**	**0.5844**
11-Urban governorates	**0.000**	**0.201**	**0.999**	**1.000**	**0.5000**
12- Visiting relatives / friends	**0.201**	**0.0510**	**0.000**	**1.223**	**0.4715**
13- Know where to go	**0.282**	**.074**	**0.000**	**1.325**	**0.5502**
14- Get permission to go	**0.128**	**0.056**	**0.022**	**1.137**	**0.5699**
15- Birth order	**-0.115**	**0.053**	**0.027**	**0.892**	**0.5321**
16- Woman's work	**-0.173**	**0.072**	**0.009**	**0.841**	**0.4568**
17- CEB	**-0.078**	**0.018**	**0.000**	**0.925**	**0.4805**
18- Child's age	**.075**	**0.007**	**0.000**	**1.078**	**0.5188**
19- Woman's age	**0.028**	**0.006**	**0.000**	**1.028**	**0.5069**
Constant	**-0.065**	**0.244**			

In addition to the previous results obtained from table (10) another three factors appear in table (12): they are visiting relatives and friends, knowing where to go and getting permission to go out. These three variables present women's mobility and they are negatively associated with school attendance. Children whose mothers are allowed to visit their friends or their families attended school 1.2 times as much as those whose mothers are not allowed to visit anyone. This result explains how women's mobility can affect their children's attendance at school.

$$\ln \{|p(y_2=1)| / [1 - p(y_2=1)|\} = -0.065 + 0.244\ X_2 + 0.276\ X_1 + 0.571\ X_{31} + 0.245\ X_{32} + 0.518\ X_{33} + 0.609\ X_{41} + 0.983\ X_{42} + 1.097\ X_{43} - 0.046\ X_{151} + 0.341\ X_{152} + 0.201\ X_{82} + 0.282\ X_{83} + 0.128\ X_{84} - 0.115\ X_{11} - 0.173\ X_5 - 0.078\ X_{12} + 0.075\ X_{10} + 0.028\ X_6$$

2-2- <u>Factors Affecting Grade Repetition:</u>

Mothers reported that children who failed exams or had repeated one grade of school are more likely to drop out of schools.

To identify the background factors affecting grade repetition, a logistic regression analysis is used to analyze major factors affecting child's grade repetition.

The first model explains factors affecting grade repetition.

The dependent variable Y_3 is repeating a grade of school, which is measured as follows:

= 1 if the child ever repeated a grade,
= 0 if the child didn't repeat any grade.

The percentage of correctly classified cases is 86.4 %, which is a good indicator for the ability of the model to classify data according to ever repeating a grade of school.

Thus, the fitted model is as follows:

Y_3 = whether the child has repeated a school's grade,
= 1 if the child has repeated a school's grade
= 0 if the child hasn't repeated a school's grade

$$\ln \{ [p(y_3 =1)] / [1 - p(y_3 =1)] \} = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots\ldots + \beta_n X_n$$

Table (13)
Logistic regression results for determinants of whether the child had repeated a grade of school, first model

Variables	*B Coef.*	*S.E*	*p. Value*	*Odds Ratio*	*Prob.*
1- Child's sex	**0.147**	**0.047**	**0.002**	**1.158**	**0.5366**
2-Place of residence	**0.332**	**0.051**	**0.000**	**1.394**	**0.5823**
3-Woman's primary education	**-0.167**	**0.059**	**0.004**	**0.846**	**0.4583**
4- Woman's secondary education	**-1.074**	**0.098**	**0.000**	**0.342**	**0.2548**
5-Woman's high education	**-1.519**	**0.238**	**0.000**	**0.219**	**0.1797**
6-Husband's primary education	**-0.127**	**0.056**	**0.023**	**0.880**	**0.4681**
7-Husband's secondary education	**-.0448**	**0.070**	**0.000**	**0.639**	**0.3899**
8- Husband's high education	**-0.841**	**0.154**	**0.000**	**0.431**	**0.3012**
9-Birth order	**-0.215**	**0.025**	**0.000**	**0.807**	**0.4466**
10-Woman's work	**0.207**	**0.069**	**0.003**	**1.230**	**0.5516**
11- Children ever born	**0.259**	**0.025**	**0.000**	**1.295**	**0.5643**
12- Child's age	**0.119**	**0.007**	**0.000**	**1.126**	**0.5296**
Constant	**-3.175**	**0.101**			

Table (13) indicates that child's age is the main factor affecting grade repetition; it is positively associated with repetition. In the second and third orders respectively come woman's and husband's education. They are negatively associated with repetition, as educational levels increase, the probability of repeating declines. Another negative relation exits between birth order and grade repetition, as the birth order increases, the probability of grade

repetition declines. Number of children ever born and women's current work are positively related to repetition. Children whose mothers are currently working are about 1.2 times as many as those whose mothers are not working. Urban children are about 1.4 times as much as rural children to repeat a grade. Males are more likely to repeat a grade than females by about 1.2 times.

$$\ln \{[p(y_3=1)] / [1 - p(y_3=1)]\} = -3.175 + 0.147 X_2 + 0.332 X_1 - 0.167 X_{31} - 1.074 X_{32} - 1.519 X_{33} - 0.127 X_{41} - 0.448 X_{42} - 0.841 X_{43} - 0.215 X_{11} + 0.207 X_5 + 0.259 X_{12} + 0.119 X_{10}$$

The second model explains factors affecting grade repetition using each decision and each place separately. The percentage of correctly classified cases remains the same as mentioned above. It is 86.4%. Logistic Regression results are summarized in table (14)

Table (14)
Logistic regression results for determinants of whether the child had repeated a grade of school, second model

Variables	*B Coef.*	*S.E*	*p. Value*	*Odds Ratio*	*Prob.*
1- Child's sex	**0.145**	**0.047**	**0.002**	**1.156**	**0.5362**
2-Place of residence	**0.337**	**0.051**	**0.000**	**1.401**	**0.5835**
3-Woman's primary education	**-0.162**	**0.059**	**0.006**	**0.851**	**0.4598**
4- Woman's secondary education	**-1.064**	**0.098**	**0.000**	**0.345**	**0.2565**
5-Woman's high education	**-1.509**	**0.238**	**0.000**	**0.221**	**0.1810**
6-Husband's primary education	**-0.133**	**0.056**	**0.018**	**0.876**	**0.4670**
7- Husband's secondary education	**-0.447**	**0.070**	**0.000**	**0.639**	**0.3899**
8- Husband's high education	**-0.842**	**0.154**	**0.000**	**0.431**	**0.3012**
9-Birth order	**-0.211**	**0.025**	**0.000**	**0.810**	**0.4475**
10-Visiting health center	**-0.109**	**0.047**	**0.022**	**0.897**	**0.4729**
11-Woman's work	**0.223**	**0.069**	**0.001**	**1.250**	**0.5556**
12- Children ever born	**0.254**	**0.025**	**0.000**	**1.289**	**0.5631**
13- Child's age	**0.120**	**0.007**	**0.000**	**1.127**	**0.5299**
Constant	**-3.117**	**0.104**			

This model differs from the previous one; it includes all dependent variables (twelve) of the first model. An additive variable appeared in the second model, i.e. going to health center. One item of women's mobility appears to indicate that women allowed to go to health center are less likely to have children who ever had repeated a school's grade. In other words, children whose mothers had a relatively high level of mobility were less likely to repeat one grade of school.

$$\ln \{[p(y_4=1)] / [1 - p(y_4=1)]\} = -3.117 + 0.145\ X_2 + 0.337\ X_1 - 0.162\ X_{31} - 1.064\ X_{32} - 1.509\ X_{33} - 0.133\ X_{41} - 0.447\ X_{42} - 0.842\ X_{43} - 0.211\ X_{11} - 0.109\ X_{81} + 0.223\ X_5 + 0.254\ X_{12} + 0.120\ X_{10}$$

2-3- *Factors Affecting School's Dropout:*

Mothers cited many reasons for dropout; the most mentioned reasons are child is not interested in school, child's failure or repetition, followed by cost-related reasons and school is not important. The percentage of mothers who cited that dropout was due to child's failure or repetition is about (40%).

Variables expected to affect dropout in Egypt are child's sex, place of residence, woman's and husband's education, ever repeating a grade, birth order, number of children ever born, child's age, sex of head of household, woman's work, woman's age, number of decisions and mobility.

The logistic model explains factors affecting school's dropout.

The dependent variable Y_5 is school's dropout, which is measured as follows:

= 1 if the child ever dropped school,
= 0 if the child didn't drop school.

The percentage of correctly classified cases is 95.0 %, which is a good indicator for the ability of the model to classify data according to school's dropout. Table (15) summarizes the logistic regression analysis. It is indicated that ever repeating a grade is the major factor affecting school's dropout. Children who had ever repeated one grade are most likely to dropout 4.5 times as much as those who had never repeated any grade.

Table (15)

Logistic regression results for determinants of whether the child had dropped out of school

Variables	*B Coef.*	*S.E*	*p. Value*	*Odds Ratio*	*Prob.*
1- Child's sex	**0.224**	**0.077**	**0.004**	**1.250**	**0.5483**
2-Place of residence	**0.444**	**0.082**	**0.000**	**1.558**	**0.6123**
3-Woman's primary education	**-0.273**	**0.098**	**0.012**	**0.781**	**0.4385**
4- Woman's secondary education	**-2.176**	**0.325**	**0.000**	**0.123**	**0.1095**
5-Woman's high education	**-4.332**	**2.092**	**0.048**	**0.016**	**0.0157**
6-Husband's primary education	**-0.485**	**0.089.**	**0.000**	**0.610**	**0.3789**
7- Husband's secondary education	**-1.130**	**0.136**	**0.000**	**0.325**	**0.2453**
8- Husband's high education	**-1.442**	**0.442**	**0.001**	**0.236**	**0.1909**
9- Decisions	**-0.062**	**0.026**	**0.018**	**0.940**	**0.4845**

10- Ever repeated a grade	**1.437**	**0.078**	**0.000**	**4.208**	**0.8080**
11-Birth order	**-0.386**	**0.038**	**0.000**	**0.680**	**0.4048**
12- Children ever born	**0.472**	**0.038**	**0.000**	**1.603**	**0.6158**
13- Child's age	**0.087**	**0.012**	**0.000**	**1.091**	**0.5218**
Constant	**-4.589**	**0.190**			

Woman's and husband's education are negatively associated with school's dropout. As educational level increases, the probability of dropout declines. Husband's education is more affecting dropout than woman's education. Number of children ever born and child's age are positively affecting dropout while the number of decisions and the birth order are negatively associated with school's dropout. A male child is more likely to drop school 1.2 times as much as female child. Finally, children residing in urban regions are also more likely to drop out of school 1.6 times as much as those residing in rural regions.

$$\ln\{[p(y_5=1)] / [1 - p(y_5=1)]\} = -4.589 + 0.224 X_2 + 0.444 X_1 - 0.273 X_{31} - 2.176 X_{32} - 4.332 X_{33} - 0.485 X_{41} - 1.130 X_{42} - 1.442 X_{43} - 0.062 X_7 + 1.437 X_{14} - 0.386 X_{11} + 0.472 X_{12} + 0.087 X_{10}$$

Another model discussing factors affecting school's dropout is introduced. In this model, a univariate analysis is used. This means that every mobility item is included in the model individually as well as the number of decisions. Regression results show that only one decision has shown significance. This decision is the decision on "making large household purchases". Women who took this decision might be more effective in declining the probability of school's dropout.

Summary and Recommendations:

This paper concludes that the percentage of school's enrolment increased to (88.7%) in 2000, (14%) of those who ever attended school repeated a grade and (5%) of those enrolled dropped out of school. Three types of schools are considered: public, private and religious. Most children attended public schools (87%) each year.

The paper also concludes that high proportions of school attendance were observed for male students, for highly educated

parents, for those living in urban areas and for those with high level of decision-making. The low proportions of school attendance existed for females attending public schools, in rural areas, less educated parents and less empowered women.

Logistic results show that woman's work is negatively related to school's enrolment, while number of decisions, mother's literacy, woman's education, place of residence, child's sex and regions are positively related to school's enrolment.

The descriptive analysis indicates that child's sex, place of residence, child's age, woman's work, decision-making levels and woman's and husband's education are associated with school's dropout. Child-related reasons for school's dropout are the most common cause of dropping out while school-related reasons are the least cause.

Logistic regression results also show that determinants of grade repetition are: child's sex, place of residence, woman's work, birth order (positively related) and woman's and husband's education (negatively related).

Based on the previous discussion some recommendations are proposed in order to help policy makers to apply different strategies to improve women's status and child's education in Egypt:

(1) Eradicating women's illiteracy which is the main obstacle of women's empowerment. The negative impact of women's illiteracy not only affects their social, cultural and political life but also affects their child's education.

(2) Raising the level of education for both women and their husbands. It is remarkable that the higher level of parents' education, the better their children's health and education.

(3) School's dropout is one of the most important problems that faced those concerned with children's education. Reasons for school's dropout should be deeply discussed to solve this problem.

(4) Efforts should not be limited to raising children school's enrolment by building more schools, less

expensive and more equipped with scientific boards, wide classes, trained teachers, computers and all equipment needed at school.

(5) Child's education programs should not be limited in rural areas because their indicators in rural Egypt are less likely than those in urban Egypt.

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