

**Title:** Child's Gender Preference: Implication on Childbearing Intention among High Fertility Married women in Stable Union in Malawi

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## **ABSTRACT**

Child's Gender Preference (GP) frequently leads to high fertility which has adverse effect on family health. The link between women's fertility intention and GP as found in this study is less explored in Malawi. This study utilized 2010 MDHS dataset and focused on married women aged 15-49 years (n=1739) in stable unions who currently have at least 5 living children. Data were analyzed at bivariate and multivariate levels ( $\alpha=0.05$ ). About 39.7% of the women have GP and higher proportion (23.3%) has preference for females. Age, region, wealth-quintile, religion, residence and family planning programmes were significantly associated with fertility intention. Women who have GP were 1.35(C.I=1.038-1.742,  $p<0.05$ ) times more likely to have intention to bear more children than those who have no GP. The odd ratio changed to 1.38(C.I=1.046-1.822,  $p<0.05$ ) after adjusting for potential confounding socio-demographic variables. Gender preference influences intention to bear more children among high fertility women.

**Keywords:** Fertility intention, Gender preference, High fertility married women, Malawi

## Introduction

Malawi is a country of about 16.3 million people and the population growth rate is 2.8 percent. <sup>[1]</sup> Studies have shown tremendous improvement in the demographic indices of the country over the years. <sup>[2],[3]</sup> The infant and childhood mortality have reduced and there has been an improvement in contraceptive knowledge. Modern contraceptive utilization increased from 13% in 1992 to 46.1% in 2010. <sup>[2],[3]</sup> The use of long acting method particularly, sterilization has consistently increased over years. The percentages of women who don't want to bear more children have also increased considerably from 26.6% in 1992 to 46.1% in 2010. <sup>[2],[3],[4],[5]</sup> Despite all these great demographic success, the Total Fertility Rate (TFR) only slightly reduced from 6.7 in 1992 to 5.7 in 2010 and Malawi is still recognized as one of the high fertility countries today. <sup>[1]</sup> The slow pace of reduction in TFR has been a source of concern to fertility researchers and family planning programmers within and outside the country. In their search to identify the factors responsible for the high fertility in Malawi, numerous studies have been conducted across the country but only few have included gender preference and sex composition of the living children particularly among high fertility women as part of their key variables as evidenced in the current study.

Our study focused on high fertility women in stable union who either have intention to limit or postpone childbearing and also included women who do not want any more children. High fertility in this context means having more than four surviving children. Also, women who have married only once in their life-time were regarded as being in stable union. In a society where fertility reduction campaign has a strong base and adherence to the themes of Programme of Action of 1994 International Conference on Population and Development, women who already have more than four surviving children should not have intention to bear more children. The restriction to high fertility women was in response to consistent reporting of four children on average as ideal number of children by Malawian women. <sup>[2],[3],[4],[5]</sup> In addition, to ascertain the reasons why high fertility women should have intention for more children bearing in mind of its health and socio-economic implications particularly, in a country where majority of its population lives in the rural area and earn below a dollar per day. <sup>[1]</sup> The consequence of high fertility on family as shown in appendix 1 includes: family's income threatened, overstretch of family resources, care for the children and their education compromised, high morbidity and mortality among under-five children in the family, mothers malnourished and health threatened, fathers health and labour activities threatened and poverty swells up. Small family size may increase the socioeconomic success position of the family in the society.

In this study, we have chosen gender preference as the key independent variable. Gender preference is a social problem which has lasted too long in developing countries and has attracted a lot of attention in the literature <sup>[6],[7],[8]</sup> after the Cairo International Conference on Population and Development in 1994. In traditional culture, bearing many children was desired by couples, the belief among couples then was that children provide source of support at old age.

But in modern world, having too many children is beginning to fade away because children are more appreciated today for social and psychological reasons. Strong child's gender preference is still common, even within segment of modern societies where such is least expected. <sup>[9]</sup> In its context, issues associated with gender preference have presented researchers with several questions that have implications for public policies and programs. For instance, gender preference may be a direct contributing factor to high fertility, it shortens birth intervals, increases births frequency <sup>[8]</sup> and some families stop having children until they are satisfied with their desired sex composition. <sup>[10],[11]</sup>

In sub-Saharan Africa, considerable levels of gender preference in favour of sons have been reported in previous studies. <sup>[6],[12]</sup> This is because the expectation of parents is that male children add to family affluence, continue the family lineage, perform important religious roles and defend or exercise the family's power, while daughters sap the family resources and are married away to a different family. <sup>[13],[6],[12]</sup> However, in families, there seems to be a consistent tendency for having at least one child of each sex often referred to as preference for a gender mix. Gender preferences may have substantial implications for a couple's fertility behaviour. Unfortunately, there is only limited empirical research investigating this subject in Malawi. Our study was therefore designed to fill the gap.

The objectives of this study are to: explore the link between gender preference and fertility intention, and to identify socio-demographic variables that are related to fertility intention among women of at least parity 5 in Malawi. We hope that the study outcome will assist policy makers in their pursuit for gender equality and fertility reduction in Malawi.

## **Methods**

### **Study area:**

Malawi is a country in sub-Saharan African located south of the equator. The country is divided into three regions: the Northern, Central, and Southern Regions. There are 28 districts in the country. Six districts are in the Northern Region, nine are in the Central Region, and 13 are in the Southern Region. Administratively, the districts are subdivided into traditional authorities (TAs), presided over by chiefs. Each TA is composed of villages, which are the smallest administrative units, and the villages are presided over by village head. The 2008 Population and Housing Census (PHC) found the population to be 13.1 million but the projected population as estimated by Population Reference Bureau in 2013 was 16.3 million. Malawi adopted a National Population Policy in 1994, which was designed to reduce population growth to a level compatible with Malawi's social and economic goals. <sup>[14]</sup> One of the policy's objectives was to improve family planning and health care programmes.

### **Study Design:**

The design for the study was cross-sectional and 2010 Malawian Demographic Health and Survey (MDHS) was used. <sup>[2]</sup> During the data collection exercise by the primary user, a multi-stage cluster sampling method was adopted. The sample was designed to provide population and health indicator estimates at the national, regional, and district levels. The sample design allowed for specific indicators, such as contraceptive use, to be calculated for each of the country's 3 regions and 28 districts. The sampling frame used for the 2010 MDHS was the 2008 Malawi PHC, which was provided by the National Statistical Office.

The districts in Malawi are subdivided into Traditional Authorities (TAs) and each TA is composed of villages which are the smallest administrative units. During the 2008 PHC, the TAs were subdivided into enumeration areas (EAs), also referred to as clusters, where each EA as a whole was classified as urban or rural. The 2010 MDHS sample was selected using a stratified, two-stage cluster design, with EAs being the sampling units for the first stage. This included 849 clusters: 158 in urban areas and 691 in rural areas. The list of households served as a sampling frame for selection of households. A minimum sample size of 950 households was required per district to provide an acceptable level of precision for the indicators measured in the survey. A representative sample of 27,345 households was selected for the survey. Detailed information about the data collection procedures is available in the 2010 MDHS. <sup>[2]</sup>

Data extraction:

Data was downloaded from the Measure DHS website after the approval for use was granted by the data originators. <sup>[15]</sup>

#### The sample size:

At the time of the survey, 23,020 women aged 15-49 were interviewed. This study utilized 1739 high fertility women based on the exclusion criteria below. High fertility in this context means having at least five living children.

#### The exclusion criteria:

The study excluded women who; were currently unmarried (never married, cohabiting, widowed, divorced, separated), had married more than once (not in stable union), had less than five living children, were menopausal, never had sexual intercourse and those who were sterilized or declared infecund.

#### The dependent variable:

The dependent variable was fertility intention. In the original questionnaire used for the survey, a question was asked from the women on their fertility intention. The possible options are; have another, undecided, want no more, sterilized, declared infecund and never had sex. Based on the exclusion criteria set for this study, we focused on women who responded that they still want to bear more children and those who said they don't want any more. Therefore, a woman fertility

intention defined for this study means that she either intends to bear more children or wants no more.

*The key independent variable of interest:*

The key independent variable was Gender Preference (GP). Gender preference was self generated as proxy from the information on ideal number of sons and ideal number of daughters. Women who reported higher number of males than females as ideal number of children were regarded as having preference for males while those who reported higher number of females were considered as having preference for females. But, those who reported the same number of children or who verbally said that either of the sex or accept God's decision as their ideal number of sex were considered as not having preference. Also, the sex composition of the living children was generated from the information on number of living daughters and living sons.

*Other independent variables:*

Other independent variables were current age of the women, religion, region, wealth quintile, place of residence and levels of education. Others included were, recent exposure to family planning messages, marital duration and women empowerment.

As for women empowerment, scores were created using variables such as; Level of education, current work status, husband desire for children, decision maker on contraceptive use, final say on owns health care, final say on making large household expenses, final say on making household daily expenses, final say on visit to family or relatives, final say on who decides on how to spend family money, can respondent refuse sexual intercourse, can ask partner to use condom. These variables are categorical and scores were assigned to responses of each woman included in the study. Thereafter, the overall score was computed for each woman and disaggregated into four categories as highly empowered, fairly empowered, poorly empowered and not empowered. The classification and assigning the score is in line with the measure DHS standard. <sup>[5]</sup>

Data analyses:

The data was analysed at three levels. At the univariate level; data plot, bars and pie charts were plotted to see the distribution of the data relative to some important factors such as age, gender specific preference and fertility intention. During the bivariate analysis, fertility intention was cross tabulated with socio-demographic variables and Chi-square statistic was recorded. The maximum level of significant was set at 5%.

The dependent variable has two categories; either a woman wants no more or she wants more children. We used as our indicator, women who want more children; thus, the classification (woman wants more = 1 or 0 if otherwise). Therefore, the dependent variable is dichotomous and as such we used logistic regression model for the multivariate analysis. At this stage, two models

were generated. In the first model, the key independent variable; gender preference was introduced into the equation independently to see its influence on fertility intention without interacting with any other variables. In model 2, other socio-demographic variables were included in the equation as control.

#### Ethical Clearance:

At the time of data collection by the data originator, ethical approval was obtained from National Health Sciences Research Committee functioning under the Ministry of Health, Malawi. An informed consent was obtained from all the study participants after describing to them all the issues related to the study in details at the point of data collection. Eligible respondents who did not want to partake in the study were excluded from the survey. Each consented participant was made to sign appropriate agreement form before the interview. Formal online approval was granted by the Measure DHS before the utilization of the 2010 MDHS dataset for our study.

## Results

### *Univariate:*

In figure 1, the data show that 76.0% of the currently married women with high fertility in Malawi only married once. Thus, the remaining part of the analysis focused on these set of women.

### **Figure 1 is here**

As shown in the data plot in figure 2, women who wanted more children were more than those who did not want any more at ages less than 36 years whereas those who don't want any more children dominate the later part of childbearing years.

### **Figure 2 is here**

In figure 3, the data show that across all the major ethnic groups in Malawi, women prefer to have female children than male children. About 39.8% have gender preference and 23.3% have preference for females as against 16.5% for males.

### **Figure 3 is here**

### *Bivariate:*

The data is evidenced that about 16% of the women studied have intention to bear more children while 18.4% of women who have gender preference intended to bear more children, 14.4% of those who don't have gender preference have intention to have more children. Higher proportion of women whose the sex composition of their children are the same (30.4%) wanted more children as against 15.3% of families where the sex composition of their children was gender

mix. The Central Region of Malawi has least proportion of its women (12.6%) having intention to bear more children compared with those in the North (16.7%) and South (19.2%). Clear rural urban differential existed in the percentage of women who intend to bear more children with higher proportion of women residing in the rural areas (16.5) wanting to bear more children than women in the urban (9.7%). The percentage of women who wanted more children reduces consistently with increasing level of women empowerment, reducing from 17.9% among those who are not empowered to 9.7% among the highly empowered.

The data further revealed that 13.8% of women who recently heard about family planning messages through media (radio, television, newspaper) signified intention to bear more children compared to 19.2% of their counterparts who have not heard of such messages. According to religion, higher proportion of the Muslims (24.7%) wants more children than any Christian religious group. The percentage of women who wanted more children reduces consistently with increasing marital duration.

### **Table 1 is here**

#### *Multivariate:*

It is worth noting that limiting the independent variable to gender preference and controlling for other variables have only slight effect on the odds ratios of gender preference. In this case, women who have GP were 1.38(C.I=1.046-1.822; p=0.023) times more likely to have intention to bear more children than those who have no GP.

Other identified predictors of intention to bear more children among high fertility women in Malawi were region, wealth quintile, women empowerment, age, religion and marital duration. Women who reside in the Central Region were 0.65(C.I=0.475-0.891; p=0.007) less likely to intend to have more children than those in the Southern Region. Being in the poorest wealth quintile encourages intention to bear more children, these women were 2.822(C.I=1.523-5.228; p=0.001) more likely have intention to have more children than those in the richest wealth quintile. The data further show that the higher the level of women empowerment the lower the likelihood of intention to bear more children. Similar pattern exists for marital duration. The likelihood of intention to bear more children was higher among Muslims (OR=1.855; C.I=1.183-2.910; p=0.007) than Christians.

### **Table 2 is here**

#### **Discussion**

The study explored the effects of gender preference and sex composition of living children on fertility intention among high fertility married women in stable unions in Malawi. High fertility constitutes threat to maternal and child health. It also has tremendous implication on women's



development and empowerment. In some families, couples may have decided shortly after marriage the number of children they would like to bear in their life time and this is achievable in the modern society with the existence of different choices of fertility control measures. But, couple's intention on the number of children they desire might change if all their live born children are of the same sex. The link between women's intention to bear more children, gender preference and sex composition of the living children in Malawi as examined in the current study has not been comprehensively established in the literature.

In most settings in Africa, families have preference for males; it is worth noting that in the current investigation, majority of the women studied have preference for females. The finding is in contrary to previous studies conducted in sub-Saharan Africa and other countries where male preference have been widely reported. <sup>[16],[17],[18]</sup> In a patriarchal setting, son preference is generally viewed as a socially unwavering prejudice. Here, couples desire to raise a child who has characteristics that are culturally accepted which are linked with male sex. This preference often influences behavior and may result in gender discrimination that negatively affect girls' and women's welfare, health and survival. <sup>[19]</sup> The preference for female children in Malawi across ethnic groups is not surprising and could be attributed to the fact that some parts of Malawi are matrilineal which means they trace their lineage to their mother. In this culture, the men get married and stay in their wives' villages and the mother's brother (atsibweni) often plays an important role in the family. <sup>[20],[21]</sup> For instance, among the Chewa's, the largest ethnic group in Malawi, they inherit from their mother's side and daughters occupy important position in the society. They are often consulted in the society for important decision. Our result is similar to the outcome of Karsten and Hans-Peter where preference for females was found in the Czech Republic, Lithuania, and Portugal and it was argued that cultural factors are important for gender preferences. <sup>[22]</sup>

About one-sixth and one-fifth of the women studied and those who have gender preference have intention to bear more children respectively. Considering the health and socioeconomic implication of high fertility, the prevalence of fertility intention among women who already have more than four living children can be considered as high. One may find it difficult to disentangle factors surrounding such intention among the women, but our study clearly revealed that gender preference and sex composition of the living children are important factors to reckon with. The result of multivariate is evidenced that strong influence of gender preference and sex composition of the living children is found when other socio-demographic factors were used as control. As shown in the previous paragraphs, gender preference is still widely practiced in Malawi and as such, women might decide to continue to bear more children until they have their desired sex or sex composition. Other studies in similar settings corroborate our findings. <sup>[23],[24]</sup> For instance, a study conducted in Pakistan revealed that the sex of surviving children was strongly correlated with subsequent fertility and contraceptive behaviour. <sup>[24]</sup>

Although, slight variation exists between the regions in Malawi with respect to intention to bear more children, women living in the Central Region were less likely to signify intention for more children than any other regions across the country.

Our study further shows that highly empowered women were less likely to have intention to have more children than those women who were either less empowered or not empowered. In Malawi's context, those who are less empowered see childbearing as contribution to the society, the more children they have the more they have achieved. The finding is expected as highly empowered women are often more likely to have control over some household decisions including intention to stop childbearing having achieved their desired fertility. Researchers have explored the association between women's empowerment, contraceptive use and fertility. Findings from these studies reveal that women's empowerment is significantly related to modern contraceptive use and lowers fertility. <sup>[25],[26],[27],[28]</sup> Consistent evidence from previous studies have also revealed that women's empowerment is a link through which education influences fertility. <sup>[29],[30]</sup>

Other identified predictors of fertility intention in this study were; religion, marital duration and wealth quintile. For example, the likelihood of intention to bear more children was higher among Muslims than Christians. Also, differential existed between the Muslim and Catholic women as Muslim women were about twice more likely to show intention to bear more children than Catholic women. This finding is in agreement with the outcome of previous studies conducted in Malawi and other parts of sub-Saharan Africa where Muslim women consistently have higher fertility than their Christian counterparts. <sup>[4],[5],[31]</sup> Also, in selected settings in four Asian countries, it was found that Muslim wives usually have more children, are more likely to desire additional children, and are less likely to be using contraception when they desire no more children. <sup>[32]</sup>

It is striking that the likelihood of women in the poorest wealth quintile who wanted more children after having at least five children was approximately three times of those in the richest wealth quintile. In Malawi context, this is expected as most of the poorest women are less educated and live in the rural areas where family planning information is limited and at times not accessible. This argument was the reason for high fertility among women in Africa as found in a study by Andreea et al., where after adjustment for fertility intention, women in the richest wealth quintile were more likely than those in the poorest quintile to practice long-term contraception. <sup>[33],[34]</sup> Cultural practices that are challenges to achieving reproductive health goals including child preference are more common among poorest women than the richest. Further research most especially qualitative study may be needed to identify the reasons while poorest women have more interest on childbearing in Malawi. This will assist family planning experts in their quest for addressing issues of fertility reduction in Malawi and other countries of similar demographic characteristics.

## **Limitation**

We focused on 1739 women (based on the exclusion criteria set for this study) from the 23 020 women included in the original sample. Therefore, the findings from this study might be incomparable to fertility intention expected among all Malawian women. In addition, secondary data source was used for this study, as such; problems associated with the use of secondary data cannot be completely overruled from the results of our analyses. For instance, some contextual variables were not captured in the original sample thus limiting their inclusion in our analyses. Also, gender preference as one of the key variables analyzed in this study was created as a proxy using information on ideal number of males and females children reported by the women included in this study. There might be possibility of slight disparity between our finding and the true situation if question on gender preference was originally included in the questionnaire used for the survey.

## **Conclusion**

Child's gender preference is still common in Malawi and higher preference for female child was reported. Gender preference and same sex composition were the major reasons responsible for women's intention to bear more children after having five living children. Although, numerous factors were found to be associated with fertility intention among the women studied but the identified predictors were gender preference, sex composition of the living children, region, age, marital duration, women empowerment and religion. Strategies to eradicate child's gender preference should be developed in Malawi. This must be exercised within the framework of the sexual and reproductive rights of women.

The existing policy in Malawi says that couples should decide on the number of children they want, however, the available statistics indicate that the ideal number of children a woman should bear is four; <sup>[2],[3],[4],[5]</sup> it is therefore tempting to argue that the family planning policy makers should advocate that each woman must not have more than four children. In addition, the family planning programme should assist couples or individual women to achieve this demographic goal by encouraging all women who have four living children to start using long acting/permanent method irrespective of the gender composition of the living children or woman's age. Since religion is one of the identified predictors of childbearing intention found in this study, engagement of such institutions as Muslim and Christian association of Malawi in population and reproductive health programs should be strengthened.

As found in this study, more women reported that they prefer female children to males. In African context, where most studies have reported son's preference, this finding seems to be striking; we therefore suggest qualitative research to explore reasons for such deviation in Malawi.

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Figure 1: Pie chart of the percentage distribution of currently married high fertility women in Malawi according to number of union

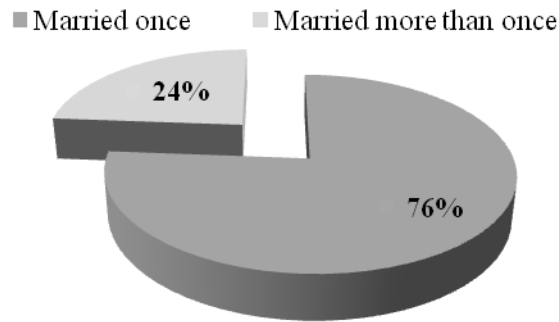


Figure 2: Data plot of the percentage distribution of currently married high fertility women in stable union in Malawi by fertility intention according to their current age

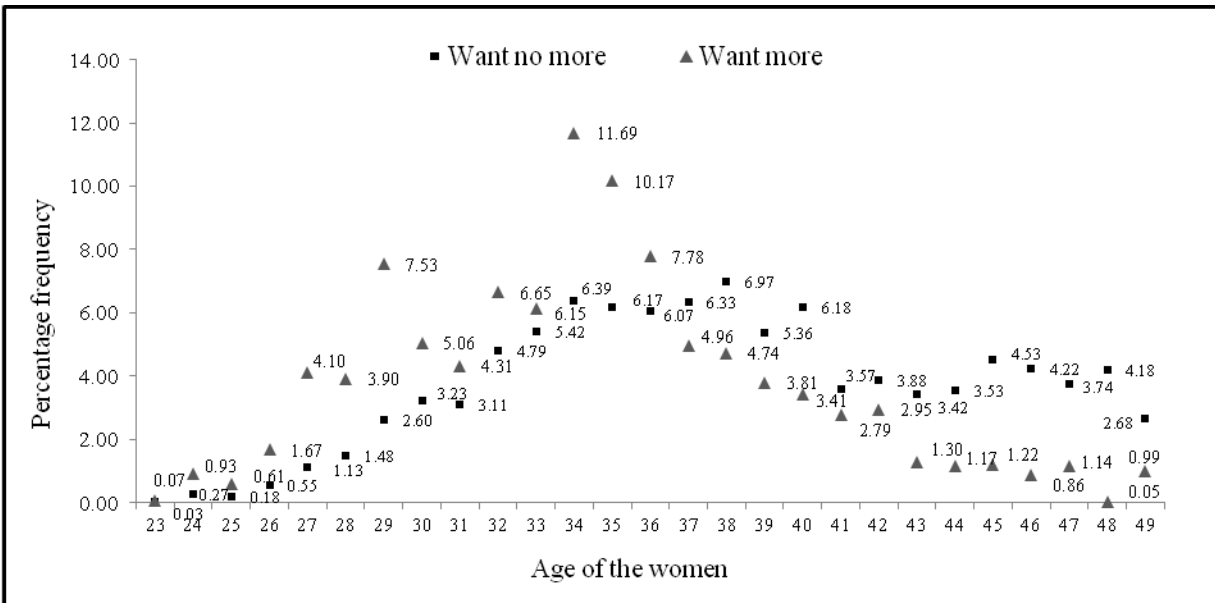
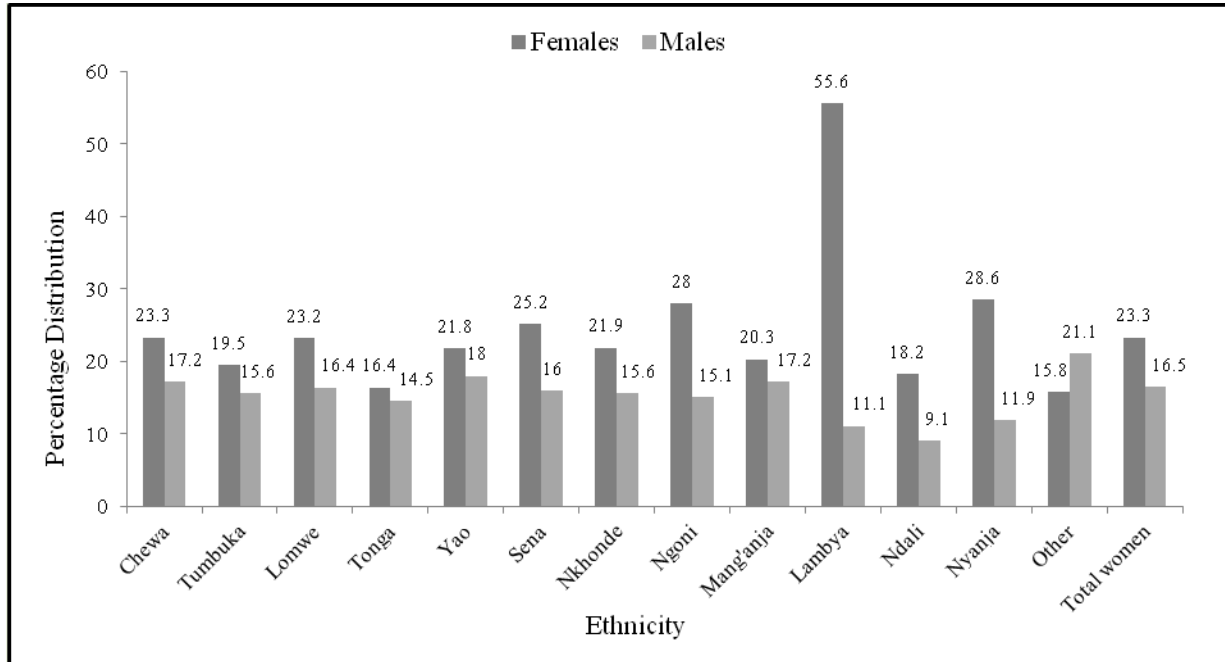
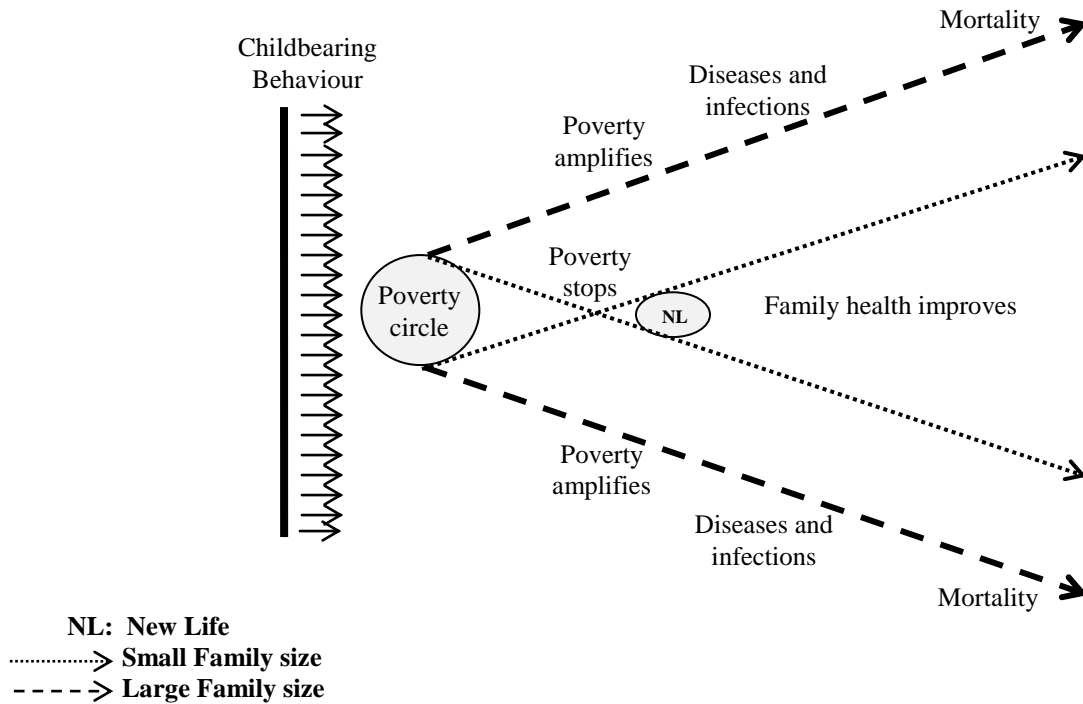


Figure 3: percentage distribution of currently married high fertility women in Malawi according to their Ethnicity



Appendix 1: Model for Implication of high fertility on family



Source: Adebawale, 2011

Table 1: Percentage distribution of currently married high fertility women in Malawi according to their fertility intention

Background Characteristics	Fertility Intention	Total Women	$\chi^2$ -value	p-value	Mean NOLC	p-value
	More					
Total	16.0	1739			6.03±1.264	
<u>Gender Preference</u>			4.889	0.027		0.159
Yes	18.4	691			6.06±1.243	
No	14.4	1048			5.98±1.294	
<u>Children sex composition</u>			2.884	0.098		0.087
Same sex	30.4	79			5.24±0.478	
Different sexes	15.3	1660			6.07±1.278	
<u>Region</u>			12.227	0.002		0.254
Northern	16.7	245			5.93±1.155	
Central	12.6	760			6.08±1.307	
Southern	19.2	734			6.01±1.252	
<u>Residence</u>			4.528	0.033		0.950
Urban	9.7	143			6.03±1.324	
Rural	16.5	1596			6.03±1.259	
<u>Wealth Quintile</u>			24.452	0.000		0.025
Poorest	21.5	316			5.90±1.115	
Poorer	18.8	373			6.04±1.298	
Middle	13.5	385			6.20±1.331	
Richer	16.7	407			5.98±1.281	
Richest	7.7	25			5.98±1.237	
<u>Women empowerment</u>			8.243	0.041		0.032
Not empowered	17.9	736			6.03±1.262	
Poorly	16.9	445			6.15±1.330	
Averagely	13.1	413			5.89±1.205	
Highly	9.7	113			6.00±1.153	
<u>Age group</u>			60.074	0.000		0.000
15-34	25.7	572			5.37±0.626	
35+	11.2	1167			6.35±1.366	
<u>Heard about Family Planning recently</u>			8.954	0.003		0.256
No	19.2	698			6.07±1.318	
Yes	13.8	1041			6.00±1.226	
<u>Religion</u>			19.457	0.001		0.000
Catholic	15.6	379			6.01±1.335	
Protestants	12.0	415			5.92±1.228	
Other Christians	15.4	681			5.98±1.176	
Muslims	24.7	250			6.36±1.392	
Others	21.4	14			6.03±1.293	
<u>Education</u>			2.778	0.249		0.000
None	17.5	544			6.22±1.335	
Primary	15.5	1133			5.97±1.232	
Secondary and above	9.8	62			5.40±0.815	
<u>Marital duration</u>			79.250	0.000		0.000
5-9	33.3	21			5.02±0.137	
10-14	26.4	273			5.22±0.531	
15-19	21.8	587			5.60±0.799	
20+	8.3	859			6.60±1.423	

Protestants: CCAP/Anglican/Seven day/Baptist; NOLC: Number of living children



Table 2: Logistic regression of currently married high fertility women in Malawi according to their fertility intention

<b>Background Characteristics</b>	<b>Model 1</b>		<b>Model 2</b>	
	UOR	95% CIUOR	AOR	95% CIAOR
<u>Gender Preference</u>				
Preference	1.345***	1.038-1.742	1.380**	1.046-1.822
No Preference	1		1	
<u>Region</u>				
Northern			1.336	0.871-2.049
Central			0.650**	0.475-0.891
Southern			1	
<u>Residence</u>				
Urban			0.709	0.367-1.371
Rural			1	
<u>Wealth Quintile</u>				
Poorest			2.822**	1.523-5.228
Poorer			2.372**	1.295-4.343
Middle			1.646	0.900-3.010
Richer			2.415**	1.362-4.284
Richest			1	
<u>Women empowerment</u>				
Not empowered			2.557**	1.278-5.117
Poorly			2.261***	1.109-4.607
Averagely			1.844	0.892-3.809
Highly			1	
<u>Age group</u>				
15-34			1.601***	1.053-2.169
35+			1	
<u>Heard about Family Planning recently</u>				
No			1.261	0.947-1.680
Yes			1	
<u>Religion</u>				
CCAP/Anglican/Seven day/Baptist			0.772	0.499-1.195
Other Christians			0.945	0.649-1.378
Muslims			1.855**	1.183-2.910
Others			0.884	0.173-4.522
Catholic			1	
<u>Marital duration</u>				
5-9			3.708***	1.177-11.68
10-14			2.663*	1.628-4.357
15-19			2.663*	1.815-3.820
20+			1	
<b>-2 Log likelihood</b>			<b>1330.071</b>	

\*Significant at 0.1%; \*\*Significant at 1%; \*\*\*significant at 5%; UOR: Unadjusted Odds Ratio; AOR: Adjusted Odds Ratio; CIUOR: Confidence Interval of Unadjusted Odds Ratio; CIAOR: Confidence Interval of Adjusted Odds Ratio