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AGE AT FIRST MARRIAGE AND CHILDREN EVER BORN IN GHANA

BY

ABIGAIL ODAI

10020874

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ACCEPTANCE

Accepted by the College of Humanities, University Of Ghana, Legon in partial fulfillment of the requirements for the degree of M.A. (Population Studies)

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DR. MUMUNI ABU

Supervisor

Date:…….

DECLARATION

I Abigail Odai hereby declare that except for references to other people's work which have been duly acknowledged, this work is the result of my own research undertaken under supervision and it has neither in part nor in whole been presented for another degree elsewhere. I, however accept responsibility for any errors found in this work.

SIGNED ……

Abigail Odai

(Student)

Date……

DEDICATION

I dedicate this work first to the almighty God for his grace and mercies. secondly this is dedicated to Mrs. Rosaline Quartey, my family and all my loved ones for their encouragement. God richly bless you all.

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ABSTRACT

In Ghana the fertility rate of 4.2 children per woman is still greater than the global average of 2.53. In view of this, various policies and strategies have been adopted to make family planning programs and methods available so as to bring about a reduction in fertility. However this has not yielded the desired results since fertility has not observed much decline. This current study examines the relationship between age at first marriage and children ever born in Ghana by the use of the Ghana demographic and health survey 2014 dataset. The study sample included women who are in a marital union. The results showed an inverse relationship between age at first marriage and children ever born ($r = -0.289$, $p<0.001$). Data analysis using Pearson correlation, analysis of variance and ordinary least square regression was done. The multivariate analysis confirmed age at first marriage was significant and negatively linked to a woman's number of children ever born ($B= -0.079$, $P<0.001$). Again some background characteristics such as education of the woman, ethnicity, religion, region of residence, wealth index and partner's education were significantly related to children ever born. The study recommends that the current practice of giving females higher admission quotas is encouraged at all levels. Also ethnic and cultural practices that promote early marriage, particularly in rural communities should be abolished.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Female age at first marriage is an important determinant of fertility. The differences in female age at first marriage can lead to either a decline or an increase in fertility levels, which has an implication for population growth rate and the economic development of a country. Globally there has been a rise in the age at first marriage and currently women's age at first marriage is above 25 years in most developed countries. The prevalence of delayed age at first marriage in several developed regions of the world was greatly influenced by the pattern of European marriage where there was delayed marriage and a high number of adults who did not marry at all (Howse, 2014; Jelnov, 2015).

In several areas around the world, young people are delaying marriage compared to their cohorts from earlier generations, due to modernization and globalization (Mensch, Singh, & Casterline, 2005; Mensch et al., 2005). In the developed countries, the transition to marrying at a later age began around the mid-1970s with a rise in the average age at first marriage from 18 to 22 years (Maubrigades, 2015). In sub-Saharan Africa, marriage is both early and universal, this is because it is a pro-natalist society (Caldwell & Caldwell, 2003). In Sub-Saharan Africa, the median age at first marriage stands at 21.1 which is the lowest compared to 22.6 and 26.4 for Asia and Latin America respectively. Therborn (2004) found a marginal rise in age at first marriage in most African countries. However early marriage still persists in some sub-Saharan African countries (Adebusoye, 2001; United Nations, 2013). Early age at marriage coupled with higher fertility has contributed to high population growth rates in countries such as Nigeria, Niger, Mali, Zambia,

Chad, Uganda and the Democratic Republic of Congo and has also contributed to the overall growth of world populations (Lutz, 2007).

Globally the increase in the age at first marriage led to slight, moderate and high declines in the levels of fertility in different regions of the world. Further declines in fertility levels has been observed in regions of the world where the levels of fertility are low already with moderate declines in areas with high fertility levels (Lutz, 2007; Population Reference Bureau, 2016; United Nations, 2013). A United Nations (2013) projection states that by 2025 at least 20% of the working population in the developed worlds will be age 65 years and older which will lead to a high old age dependency. The declining fertility level is further expected to lead to low productivity (Prettner, Bloom, & Strulik, 2012).

In the 1990s the total fertility rate in Sub-Sahara Africa was 6.2 births per woman and this declined to 5.1 in 2010 and currently it stands at 4.8 children per woman (Bongaarts, Frank, & Lesthaeghe, 1984; United Nations, 2013). However the decline which started is currently stalling in some countries of the region which has had negative implications for the economies of the sub-Saharan African regions. High fertility rates therefore present a major difficulty to most developing countries including sub-Saharan African countries which needs to be addressed.

Ghana has experienced an increase in women age at first marriage, even though early marriage is still dominant in certain parts of the country. The Ghana Demographic and Health survey reports of 1988 and 2003 pointed out that, the age at first marriage in 1988 was 18 years but this increased to 19.6 years in 2003. Also there is evidence to show that at age 20 about 45% of women aged 25-49 got married for the first time and about 58% got married around age 22 years. However the median age at first marriage is 20.7 years. The report further states that there was a

reduction in the number of women who got married by age 15 years from 11% to 2% (GSS, GHS, & ICF, 2015).

The Ghana Demographic and Health survey report of 2008 indicated that the total fertility rate of the country started declining since 1988 from 6.4 to 4.0 in 2008 with a rise also in contraceptive use from 12.9% to 25.5% in 2003 (Bongaarts & Casterline, 2013). The total fertility rate has now reached 4.2 (GSS, GHS, & ICF, 2015). The current fertility rate implies that fertility is still high when compared to the global average of 2.53 children per woman (Garenne, 2008; Lesthaeghe, 2014; UN, 2014). Early marriage still prevails in certain parts of Ghana and this accounts for the high rate of population growth in the country, which is a major challenge facing the country (GSS, GHS, & ICF, 2009; Gideon, 2013; UNICEF, 2014).

Age at first marriage is a major indicator of fertility in Ghana and a critical area of study to understand the fertility situation in the country. There is the need to study the factors which leads to the differences in age at first marriage and its effect on fertility so as to make recommendations for policy interventions that will lead to fertility reduction in Ghana.

1.2 Statement of the Problem

The Ghana demographic and health survey report of 2014 indicates that the mean age at first marriage for women in Ghana is 20 years and this shows that a sizeable number of women marry early in the country. About 45 percent of women got married at age 20 where as 58 percent got marriage by age 22. It is worthy to note that the average age at first marriage which is 20 years is lower than the global average of 25 years. The report further indicates that the number of women who got married by age 15 years dropped from 11% to 2%, which implies that there was an

upward movement in the age at first marriage. However, generally there is early age at first marriage in Ghana. Early marriage is a factor that accounts for high fertility levels and a rise in the rate of population growth. This is because early marriage increases the reproductive life span of the woman making it possible for her to have lots of children. In a 2017 report by the United Nations, the current population of Ghana was estimated to be 28 million, a figure which shows an increase from the 2010 census figure of 24.2 million (GSS, 2012). The child dependency ratio is 60.8 %, which implies that the dependent part of the population is more than the working population. This led to an over burdening of the working population since it has to provide for the needs of these children leading to a lack of savings and investment (United Nations, 2013; Weeks, 2008).

Early marriage comes in different forms which include child marriage - marriage before age eighteen years and adolescent marriage. When women marry early it affects them physically, intellectually, emotionally and psychologically. Early marriage leads to early child bearing which presents a major health risk for both the mother and the child (UNICEF, 2001). The babies born to mothers who marry early and give birth early usually suffer from disorders of the nervous system which affects the normal intellectual development of the child. Also early marriage and child birth leads to a high incidence of infant mortality (Ikamari, 2005).

The other effects of early marriage include the infringements on the rights of the girl child, inability to have childhood and adolescent experiences, lack of personal freedom and an opportunity to develop one's self to the fullest, girls dropping out from school, rising number of street children, unsafe abortions, very young laborers, increasing the incidence of children being forced to work under harsh conditions for little or no pay, a lack of adequate emotional and physical care for the child and a loss of self-esteem and limited future career opportunities for the

child. These young mothers also suffer great physiological and emotional damages and lower future family income leading to a cycle of poverty (UNFPA, 2012).

Early marriage affects not only the individual but also negatively affects entire households and has social, economic and environmental effects on society at large. The economic growth and development of a country is greatly affected. These uneducated girls are also not empowered to perform their roles as mothers and also to contribute meaningfully towards the development of society which further gives rise to gender inequalities. Again, the children born to these young mothers tend to face the same disadvantages experienced by their mothers leading to a cycle of poverty (UNICEF, 2001).

A UNICEF (2015) report stated that Ghana tops in child marriage rates in west Africa and this is characterized by children being forced into marriages before attaining age eighteen years. Furthermore this report states that despite the recent rise in the age at first marriage, early marriage still prevails in some parts of Ghana. These areas include Northern Ghana, Upper east and Central regions, which recorded a high rate of early marriages. There was an indication that one in every ten adolescent girls in these regions is already married (UNICEF, 2016). The report further revealed that in Ghana early marriage is more prevalent in areas where poverty levels are higher

Ghana's population is made up of a high number of young adults and a relatively high fertility rate. The high percentage of adolescents and young adults in a population can lead to a further increase in the future population size and growth of a country (Casterline & Agyei-Mensah, 2011). In 1960 this adolescents and young adults population in Ghana increased to 1.1 million and it increased to 3.5 million in the year 2000 and in 2010 it shot up to 4.9 million and has been projected to reach 5.3 million in 2015 (GSS, 2013). This population which has the

propensity to grow, made up of the youth aged 15-24 years, is expected to persist into the 21st century. This youth bulge is associated with a number of problems such as a rise in armed robbery activities, drinking, smoking, drug abuse and an increase in sexually transmitted infections due to unprotected sex. Also, the increase in the youthful population puts pressure on the government to expand the educational, health and employment facilities in the country.

A decline in fertility is necessary if Ghana has to achieve demographic dividend. The demographic dividend is the accelerated economic growth that can happen as a population age structure changes. This happens as it passes through the demographic transition and begins to experience low birth and death rates instead of high birth and death rates. The country begins to experience the demographic dividend as the population of young adults gets fewer and less dependent on the working age population. Since a high number of dependent children negatively affects economic growth. A country is in the process of harnessing the demographic dividend if the young and dependent population gets smaller and measures are put in place to further reduce fertility (Baah Boateng, 2013; Weeks, 2012).

It has been clearly shown from literature that the early age at first marriage is the source of most population problems which affects not only the wellbeing of the individual involved but also affects the wellbeing of entire households and the society at large (UNICEF, 2016). It is therefore necessary to examine the factors that affect age at first marriage and its relationship with fertility.

1.3 Research Questions

- What is the influence of age at first marriage on children ever born in Ghana?

- Does the educational level of the woman influence children ever born in Ghana?
- Does the place of residence of the woman influence children ever born in Ghana?

1.4 Research Aims

The main goal of this research work is to examine the relationship between age of the woman at first marriage and children ever born in Ghana so as to make recommendations for policy interventions that will lead to fertility reduction in Ghana.

Specifically, the study seeks to:

- Examine the relationship between age at first marriage and children ever born.
- Investigate the effect of a woman's level of education on children ever born in Ghana.
- Examine whether the place of residence has influence on children ever born in Ghana.

1.5 Rationale of the Study

There is the need to study age at first marriage and fertility due to a number of factors. The age at which women marry for the first time has implications for both fertility and mortality. It has implications for fertility in that it determines whether fertility will increase or decrease (Westoff, 2003; Wilson & Smallwood, 2008). As women delay marriage it leads to a reduction in fertility and as they marry early it leads to higher fertility levels which can further determine the growth or decline of a population. A high rate of population growth is very detrimental to the growth of a nation's economy as it puts pressure on a nation's scarce resources and also leads to environmental pollution. Again, a high population growth rate will make it impossible for Ghana to reap the benefits of the demographic dividend which is the increased economic growth that a

nation experiences as the age structure of the population changes to a point where majority of the people will be in the working age group with fewer children who are dependent. A population which is made up of a higher number of children will hinder economic growth (Baah Boateng, 2013; Weeks, 2012).

Age at first marriage helps us to understand nuptiality changes. It helps us to know whether people are marrying late or early and its implications. Marriage as a social institution is very important for the stability and socialization of society and for the reproduction of the next generation (Thornton, Axinn, & Xie, 2007). Also, it ensures family formation which is an important establishment of the society. The wellbeing of the family is the wellbeing of the society as a whole. The nation state is formed out of the family which is the smaller unit in society.

The Ghana Demographic and Health survey report of 2008 states that about 25% of women between ages 20 and 24 years got married prior to age 18. There is a high rate of early and forced marriages in the Upper East region of Ghana and this is about 50% and that of the Upper West region is 39% (UNICEF, 2015). Early marriage can lead to high fertility and high population growth rate. However in spite of the high rate of fertility any attempt to regulate child birth through the introduction and use of modern contraceptive methods have not proven very successful. This is because traditional society still places high value on having a larger number of children. It is therefore important for the government and Non-governmental organizations responsible for population issues in Ghana to work to formulate policies that will lead to a rise in the age at first marriage which will consequently more likely to lead to a decline in fertility. It is therefore necessary to study age at first marriage in order to make data readily available to assist policy makers formulate policies that will lead to a rise in the age at first marriage. There is

evidence to show that populations with higher age at marriage on average have low fertility (Dommaraju, 2008; PRB, 2016; Solanke, 2015).

Furthermore, early marriage leads to an infringement on the rights of the girl child (Gideon, 2013; Lillian & Mumbango, 2015). All of these factors raised above, make the study of age at first marriage and children ever born very necessary. These findings of the study will provide policy makers with the necessary information needed to initiate programs that will lead to a rise in age at first marriage and a decrease in the level of fertility in Ghana.

1.6 Organization of the research work

There are six chapters in the study. Chapter one comprises of the information about the background of the study, statement of the problem, the research questions of the study, objectives and the rationale of the study. Chapter two consists of literature review, hypotheses and the conceptual framework. In this chapter works done by other scholars in relation to the study are examined. Chapter three outlines the research methodology, where a critical review of the processes involved in carrying out the research is presented. Chapter four explores the background characteristics of the respondents and it looks at univariate analysis of the variables of the survey, with simple frequency tables used in presenting the data. Also in chapter 4 a bivariate analysis is used to examine the relationship between the independent variables and the dependent variable by the use of ANOVA and correlation. Chapter five focuses on the multivariate analysis and the results of the multivariate analysis are discussed in this chapter. Chapter 6 is the final chapter and it caters for the summary, conclusion and recommendations

and it gives an overview of the research process, its major findings and appropriate policy suggestions for action.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

In almost all societies the institution of marriage is an important social and demographic element which stands for a period in life when child bearing is accepted and recognized? It remains an important institution which lays the foundation of a family. Marriage has been given several definitions. When conducting Censuses many countries define marriage according to the types of marriages and unions which are accepted and they collect information accordingly. For the demographic and health surveys, marriage is a self-defined state, and hence respondents are coded as married if they say so (Mensch et al., 2005). Traditionally the institution of marriage is a union between a man and a woman. Three types of marriages are recognized in Ghana and these are marriage under customary law, ordinance and marriage of the Mohammedans.

Age at first marriage and fertility are two very important demographic indicators because both indicators can bring about population change. Women who delay marriage will more likely have a smaller number of children than women who marry early (Steele, Kallis, Goldstein, & Joshi, 2005). This implies that delaying marriage will lead to population decline and early marriage will lead to population increase. It is therefore very necessary to look at the factors that determines the age at first marriage and fertility (UN, 2014).

2.2 Age at first marriage

Most women are currently delaying marriage and this has brought about a reduction in the level of fertility (Westoff, 2003). This demographic transition has occurred in an era of modernization

and globalization which has brought with it a rise in the status of women and an elimination of the high value placed on children (United Nations, 2014). Children are no longer seen as assets, this has occurred in the wake of widespread social, legal and technological changes. For many demographers, age at first marriage deserves to be studied because of the close link between marriage and the onset of child bearing (Malhotra, 1997).

The age at which people marry is influenced by social norms. These factors are however changing due to globalization, modernization, urbanization and the rising educational attainment of women (Casterline, 2005). Other studies also indicate that the decision about when to marry may be based on both societal norms and on economic realities (Malhotra et al., 2002). As women begin to earn as much income as men, their incentive to marry decreases. According to Becker & Siebern-Thomas (2007) a rise in the educational attainment for women can also lead to late marriage. Education exerts greatest influence on the age at which people first marry. Education is positively related to age at first marriage and negatively related to fertility (Okonkwo & Terry, 2008). A number of studies over the years have attributed the changes in the timing of marriage to the fertility transitions in both developed countries and currently in the developing countries (Reher, 2004).

Currently most women in different parts of the world have taken to modern ideals such as marrying late and postponing child birth. Factors such as modernization increase in contraceptive use and the rise in the educational attainment of women has led to an increase in the age at first marriage for women.

It is important to note that social and economic modernizations are associated with lower fertility. The landscape of union formation has been changing. Majority of Americans are for example marring late. Young women are now marring late (Elliott, Diana & Simmons, 2011).

In Africa, factors such as an increase in the age at first marriage and the growth in various feminist movement, the greater attention given to the situation of the girl child, with a globalized media in which women are featured more prominently now than in the past are likely to have undermined traditional values (Mensch et al., 2005). A lot of studies have indicated that the demographic transition theory which entails the movement from high to lower levels of fertility is partly responsible for the changes in the age at first marriage both in the developed and developing countries (Holland, 2013). Most young people in the less developing countries are marrying later than their counterparts in earlier generations. A number of demographic and health surveys which were conducted in eight of nine East African countries indicated that most people are marrying late and this was same in Guinea and Senegal (Garenne, 2004).

The age at which women first marry differs among many Sub-Saharan African countries. About 25% of teenagers in Mali are not married and this is about 94% in Botswana. Teenage marriage is not common in the near East Africa and in places like Egypt, Morocco and Tunisia about 90% to 96% of women of ages 15-19 years had never married. The proportion of women who are married by age 20 has reduced substantially in North Africa. In Tunisia among women aged 45-49 years, 51% got married by age 20 and this reduced to 21% among women age 20-24 years. The same trend was observed in Egypt where the number of women who got married by age 20 declined from70% to 45% and in Morocco it moved from 74% to 31%. A rural–urban differential in the age at first marriage was also observed. For example, in Egypt 43% of urban and 73% of rural women were married by age 20 and in Senegal 64% of urban and 87% of rural women were married by age 20 (Paping, 2007; Rutto, 2015).The median age at first marriage has gone up and now stands at 20 years among Kenyan women age 25-29. Social and economic modernization is associated with higher ages at first marriage and of lower fertility. Recognition

is being given to the social status of women in the society, not only as mothers and wives but also as professional women. These changing views about the roles that women are supposed to play seems to be a factor in the rising age at first marriage (Mcnay, 2004).

2.3 Fertility

Generally, fertility levels have declined in most regions of the world. This movement from high to low fertility is happening very rapidly with concerns in many countries that this will pose serious challenges if not checked (Caldwell, 1988).The problem has led to an expansion of the older population which has affected productivity and also led to an increasing pressure on the health care system. The size of the work force has also decreased (Anderson, & Kohler, 2016).

Marriage trends in Europe over the last decade has been characterized by late marriage, low and below replacement level fertility (Beaujouan & Sobotka, 2017). The period total fertility rate in Belgium declined from 2.72 in 1964 to 1.74 in 1975.There was, sub-replacement fertility by 1975 in other western and Northern European countries such as Finland Austria, Denmark, Germany, Norway, France, the Netherlands, Sweden, Switzerland and the United Kingdom (Coleman, 2007). In the 1980s the below replacement level fertility reached southern Europe and in the 1990s lowest-low fertility levels emerged in central and Eastern Europe with the total fertility rate decreasing to less than 1.3 (Lesthaeghe, 2014). About 51 of today's 70 low fertility countries had total fertility levels of 2.0 children per woman around the time when the 1994 International Conference on Population and Development was held. This figure includes most low fertility countries in Europe which had already experienced replacement level fertility before the 1990s.

The 2013 world fertility survey data reports shows that from 2010 to 2015 of about 70 low fertility countries in the world, 16 in Asia, 39 are in Europe and 12 in, the Caribbean, Latin America, Canada, Australia and Mauritius. In Iran, total fertility declined from 6.9 children per woman in 1960 to 1.9 children per woman in 2005. In the year 2000 there was the lowest decline ever in the total fertility levels in most countries that had experienced total fertility levels of below three children per woman (Bongaarts & Casterline, 2013).The total fertility rate in most of the countries that had reached maximum fertility level after 1960 remained between 1.5 and 1.9 children per woman.

Hence since the 1950s many countries had experienced a shift from high to the low fertility levels. This decline in fertility levels was very high in many countries, with the biggest declines being in countries outside Europe. Most low fertility countries in Eastern Europe experienced below replacement level fertility before 1994. The total fertility rate for China, Hong Kong, Japan and the Republic of Korea was 1.4 children per woman or less. Eastern Asia is characterized by low fertility and the region is now typically being recognized as an area of low fertility compared to Europe. Latin America, the Caribbean, Central and Western Asia are fast becoming known as new areas of low fertility (Beaujouan & Sobotka, 2017).

In Africa there has been a marginal increase in women's age at first marriage with the median age at first marriage standing at 21.1 years, a figure which is the lowest in the world. Also, a delay in childbearing among young and adolescent women has been observed and this accounts for the decrease in fertility levels (Westoff, 2003). In addition, most of the recent studies done in Sub-Saharan Africa shows that there is a relationship between age at first marriage and fertility (Shapiro & Tambashe, 2001).

A close study of demographic data in Africa shows that the total fertility rates of the various African countries are not the same. There was an increase in fertility levels in several African countries in the 1960s and the 1970s. In places like Kenya the total fertility rate rose from 5.3 births per woman in 1962 to 6.6 in 1969 and it moved further to 8.0 in 1977. Also, the total fertility rates of about thirteen West African countries fell within the range of 6.2 and 7.4 children per woman and the total fertility rate was 7.4 children per woman in Niger (United Nations, 2015).

About twelve East African nations had fertility rates that ranged between 5.5 and 8.5 children per woman in Zimbabwe and Rwanda respectively. The total fertility rate in most East African countries lay between 6.4 and 7.0 births per woman (United Nations, 2001).

Fertility rates in Sub-Saharan Africa were particularly high compared to that of other countries (Bongaarts, 2008; Charles F Westoff, Bietsch, & Koffman, 2013). This is due to the fact that early marriage still persists in some Sub-Saharan African countries. As a result, some countries in the region experienced rapid population growth rate of above 3% (United Nations, 1991; Freedman and Blanc, 1992). The level of fertility generally remained above six children per woman (Lesthaeghe, 2014; Mturi & Hinde, 2001) There were slight to moderate declines in fertility levels of between 15% and 25% in most countries in west Africa with some few countries being in Eastern and Central Africa. In Eritrea, Rwanda, Madagascar and Southern Sudan, total fertility declined by more than 20% and this was same in some West African countries such as Sierra-Leone, Benin, Ghana and Guinea Bissau (UN, 2014).

A delay in childbearing among young and adolescent women will lead to a reduction in fertility levels. There are indications of falling fertility levels in several Sub-Saharan African countries, however this decline is just too marginal (Machiyama, Silverwood, Sloggett, & Cleland, 2010;

Ortega, Jose, 2008). A number of Demographic and Health Survey reports point to the fact that fertility has declined in countries like Zambia, parts of Nigeria, Senegal with the decline being high in countries such as Botswana, Zimbabwe and Kenya (UN, 2014).

2.4 Determinants of Age at First Marriage and Children Ever born

2.4.1 The Educational Level of the Woman

According to Becker & Siebern-thomas, (2007) with increased schooling the opportunity cost of marriage rises for women. With education, a woman can work and earn income, making her economically independent and may as a result delay marriage and therefore delay child bearing. Women with eight or more years of schooling are much less likely to marry early than those with 0 to 3 years of schooling (Thornton et al., 2007). Many scholars have argued that increased schooling is the leading reason behind the delay in the age at first marriage and lower levels of fertility (Gunes, 2013; United Nations, 2015). Most developing countries have experienced a rise in educational attainment of women and a rise in the age at first marriage. Education is said to give young women greater influence over the timing of marriage and choice of marriage partners (Bhakat, 2015; Muntari-Sumara, 2015). Education makes women spend a greater part of their lives in school thereby leading to a postponement of marriage and child bearing. Schooling has become more important and therefore there are more enrollments for women especially. Women who are highly educated are more likely to delay marriage and also use modern contraceptives which will lead to a reduction in fertility (Garenne, 2012; Vavrus, 2000). Uneducated women are more likely to marry early and also are not likely to use modern contraceptives leading to a higher number of children ever born. The increase in the educational attainment of women has

contributed to a rising age at first marriage, fertility decline, and an increase in the labor force participation for women (Lloyd & Mensch, 2006).

2.4.2 Place of residence

Women in urban areas are more exposed to education and labor force participation and also tend to have both knowledge and access to the use of contraceptives. They therefore tend to marry late, give birth to fewer number of children compared to those who live in the countryside or the rural areas (Akamai, 2005; Macquarie, 2016). In urban areas, the high costs of living, the lack of adequate financial and material resources and economic hardship have contributed to the reduction in fertility. Women living in these cities are more likely to delay marriage because of the very nature of urban life (Takyi & Addai, 2016; Jisun, 2016). Women in the urban areas are exposed to modern values encouraging later marriage and are less likely to be under the influence of kin who control the timing of marriage and choice of spouse. With the increase in schooling, the youth are more likely to undermine the traditional marriage norms and values that encourage early marriage and childbirth. For example, in other parts of the world such as in Latin America and the Caribbean 74% to 89% of teenagers are unmarried. In places like Guatemala, Ecuador, Colombia, Peru and the Dominican Republic more women of ages 15-19 had never married. This indicates that there is a rise in the age at first marriage. In Egypt about 43% of urban women and 73% of rural women got married by age 20. Again in Peru about 33% and 59% of urban and rural women respectively, got married. This was 50% versus 73% in Indonesia and in Senegal 64 versus 87% (Paping, 2007).

On the other hand, women who reside in the rural areas are more likely to give birth to a higher number of children due to their strong value for large families, lack of access to education and modern contraceptive use (Ebere, 2015; Mwabu, et al. 2013).

2.4.3 Ethnicity

In Africa, the age at first marriage is influenced by some societal norms. These factors have now given way to modernization ideals. The high value placed on having a larger number of children has gradually eroded (Solanke, 2015). Ethnicity is also a factor that determines age at first marriage and children ever born (Garenne, 2008). This is due to the fact that people's behavior and beliefs are tied to particular ethnic groups (Opoku, 2014). There are different traditions and customs in Ghana that define accepted marital norms including the first age at marriage. The high value placed on marriage and child birth ensured that it occurs very early.

It offers a means by which people acquire beliefs, patterns of behavior and attitudes. The norms, traditions and practices of a woman's ethnic group can work to influence her age at first marriage and her desired family size (Bakibinga et al. 2015; Garenne, 2008; Lesthaeghe, 2014). These norms and values include contraceptive usage, the duration of exclusive breastfeeding, practice of family planning, desires to have large family, among others (J. R. Weeks, 2008). A woman who belongs to an ethnic group that believes in the use of contraceptives is more likely to give birth to a smaller number of children compared to a higher number of children for women whose ethnic group kicks against the use of contraceptive use.

However in recent times this trend has changed due to modernization and the rising educational attainment for women. The age at first marriage has gone up leading to a delay in child birth. In view of this, fertility levels have also declined. A study of nuptiality patterns in Ghana reveals that there is a variation in the mean age at first marriage according to ethnic groups. This was 20.6 years for the Ga-Adangme, 19.9 among the Akans, 19.5 among the Ewes and 17.8 years among the Mole-Dagbani (Aryee, 2013). In Senegal, there is a practice of early marriage among the Jola and Serer ethnic groups, and among the Madeng and the Pular ethnic groups

2.4.4 Religion

In Ghana religion runs through institutional structures including reproduction and marriage. It is argued that religion constitutes a fundamental factor that influences and shapes Ghanaian's culture, identity and politics (Adamtey, 2015; Gyimah, & Addai, 2006). The different religious doctrines influence the age at first marriage and fertility levels in Ghana. Other marked changes include the fact that the choice of marriage partners has been left to individuals to decide on. In Ghana, it was observed that Christians have a higher mean age at first marriage than Muslims and traditional worshippers (Takyi et al., 2006). He observed that the mean age at first marriage for Christian women is higher by about 1.9 years than that of Muslims and traditional worshippers. Moslem women marry early than Christian women and are therefore more likely to have a higher number of children.

Religion has also been shown in the literature to affect fertility. According to Zhang (2008) Mormons, Baptist and Catholics kick against the use of contraceptives in controlling and reducing family size. Women who belong to these religious groups are more likely to give birth to a higher number of children compared to women who do not practice such beliefs. Also, Christian women are more likely to delay marriage and have a smaller number of children compared to Moslem women who are more likely to marry early and have a higher number of children ever born (Westoff & Bietsch, 2015). Studies done in Sub-Saharan Africa show that a nation's fertility is linked to factors such as age at first marriage, religion and education among many others (Frejka & Westoff, 2006).

2.4.5 Education of partner

The educational level of a husband is very important because in most societies reproductive decision-making lies with the man. In view of this higher educated men are more likely to

support the use of contraceptives since they will prefer to have fewer number of children compared to men with low or no education (Angeles et al., 2005). Men with lower level of education have preference for higher number of children and also do not believe in contraceptive use. Women whose husbands are educated are more likely to use contraceptives thereby leading to a decline in the level of fertility. It was found in Kenya that a husband's education determines current use of contraceptives more than a wife's education (Baschieri, 2013). When it comes to reproductive decision making in Zimbabwe, a husband's education and occupation is considered more crucial than that of the wife (Kyalo, 2012). In 1988, contraceptive use by Ghanaian wives were greatly influenced by their husband's educational background (Derose, 2004). De Rose and Ezeh (2005) later argued that the influence of men's education on women's fertility intentions was far greater than the effect of the women's own education. This situation grew significantly as the years went by. In their analysis of some more detailed data for 5 countries Kulczycki, (2008) and Gibby (2005) also concluded that a husband's reproductive intentions were far greater than that of the woman.

Furthermore, the educational background of one's husband helps to influence attitudes and behavior such as reproductive decision making and contraceptive use (Gibby, 2005; Harding, et al., 2014). Therefore, men who are highly educated are more likely to support their wives' decisions on contraceptive use which will lead to smaller number of children ever born (Irani, 2014; Kyalo, 2012). On the other hand, women whose husbands are not highly educated are more likely to have a larger family size due to the fact that such men are more likely to desire for large family sizes.

2.4.6 Region of residence

The region of residence of a woman can influence both her age at first marriage and children ever born. Women who live in regions that uphold cultural practices such as fosterage, polygamy, early marriage and childbirth and places value on one having a larger number of children are more likely to have a higher number of children (Gaisie, 2005; Codjoe, 2007). Also poverty coupled with the cultural practice of early marriage in some regions can also influence age at first marriage and fertility (UNICEF, 2016).

2.4.7 Wealth index

The wealth of a woman determines whether she can afford the basic needs of life including being able to afford modern contraceptives and also being able to pay for medical services. This implies that the higher the wealth status of a woman, the more likely she is to delay marriage and also use modern contraceptives hence leading to a reduction in fertility. Also a wealthy woman is more likely to be educated, empowered and to become an independent woman who is able to make informed decisions about contraceptive use and childbirth. Wealthy women are therefore more likely to have a fewer number of children than poor women (Skirbekk, 2008). Studies have also shown that women from richer households tend to delay marriage compared to early marriage for women from poorer households (UNICEF, 2015).

2.5 The Limitations of existing studies

Touching on the various existing studies a number of limitations can be pointed out. In his work entitled “Marriage, age fertility behavior and women empowerment in Nigeria, Solanke pointed

out that the inference made in the study is limited due to inability to establish a cause-effect relationship between age at first marriage and fertility.

Also in his work entitled "Religious affiliation, religiosity and male and female fertility" Li Zhang mentioned that in order to fully address the impact of religiosity on fertility, further research needs to be done to bring those without religious affiliation into the analysis and that there is a limited measurement of religiosity applied in the analyses.

Again in her work entitled "education and fertility in urban poor communities in Accra, Ghana" Akweley Armah also said that women may misreport on their exact ages since they may not know their ages and also that older women may forget to include all children they might have had. This can go a long way to affect the calculation of certain rates.

Furthermore Rutaremwa Gideon in his work entitled "factors associated with adolescent pregnancy and fertility in Uganda" stated that in order to measure the perceptions of negative social sanctions for pregnant adolescents, further studies needs to be carried out. This he said is necessary in order to infer on norms and behaviors of adolescents as they relate to pregnancy and childbearing

Again in their work entitled "Marriage among women in Western Uganda" Peninnah Agaba,Leonard k.Atuhaire and Gideon Rutaremwa mentioned that a lot of research has to be carried out to find out the ways by which education influences the timing of marriage.

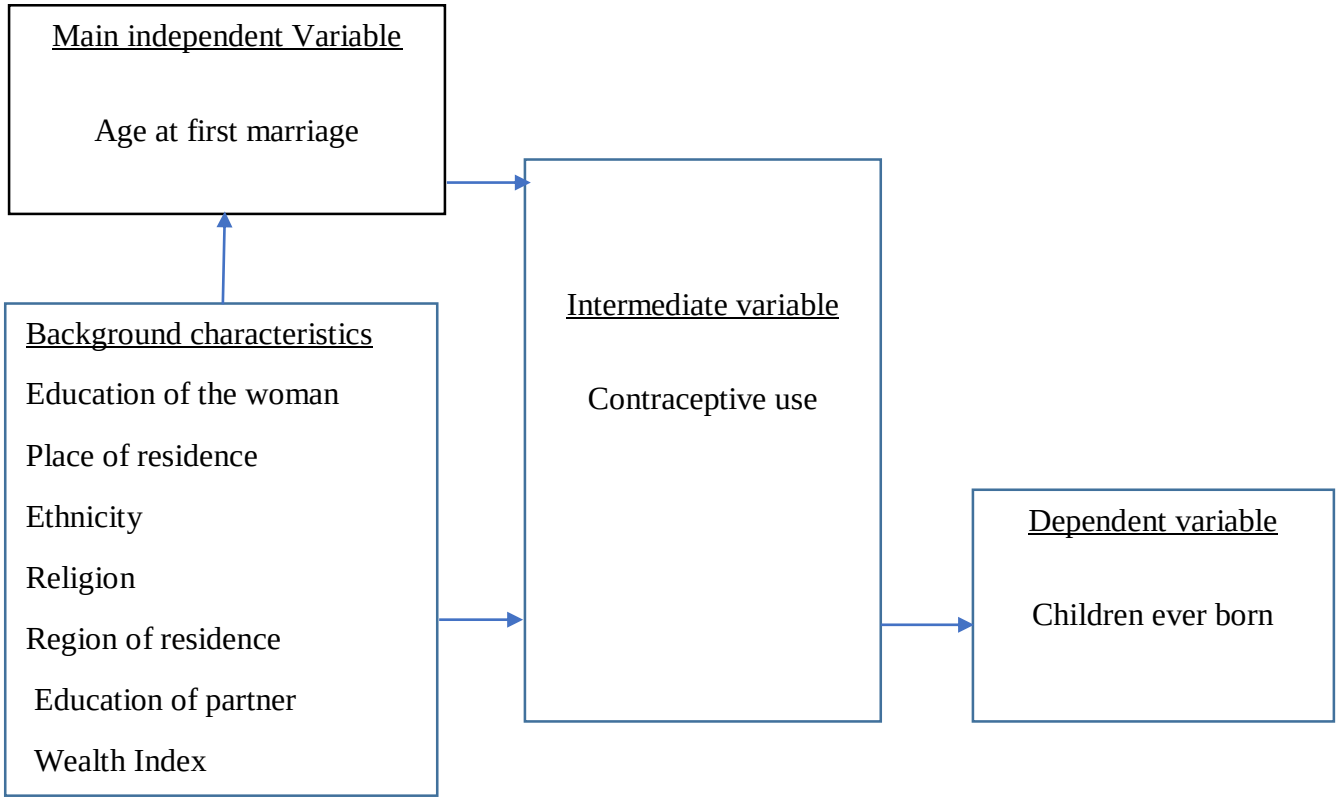
It is important to note that in all the limitations mentioned there is the issue of inadequate data, data inconsistencies and misreporting which has to be addressed in other to avoid the problem of giving partial views on issues instead of dealing with issues holistically

2.6 Conceptual Framework

The conceptual framework shows the relationship between the independent and the dependent variable on one hand, and also shows a relationship between the control variables, the intermediate and dependent variables on another hand and the relationship between the control variables and the dependent variable which is Children ever born.

The main independent variable is the age at first marriage. In this study background variables such as education, place of residence, ethnicity, religion, region of residence, education of partner and wealth index was used. The main intermediate variable is contraceptive use.

Figure 2.1: A Conceptual Framework showing the interrelationships between age at first marriage and children ever born



Source: Adopted & modified from Bogart's and Potter Intermediate Framework: (1983)

2.7 Hypotheses

Looking at the related literature and the relationships in the conceptual framework, the study hypothesizes that:

- There is a negative relationship between age at first marriage and number of children ever born.
- Urban women are more likely to marry late and have fewer numbers of children than women who reside in the rural areas.
- Women with secondary or higher education are more likely to marry late and give birth to a fewer number of children compared to women with low or no education.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The section provides information on the source of the data used for the study, selection of sample size and methods of analysis used.

3.2 Source of data

The source of data for the study is from the 2014 Ghana Demographic and Health Survey. The Demographic and Health survey is a household survey which is carried out every five years by the Ghana Statistical Service in partnership with Macro, Noguchi Memorial Institute and Ghana Health Service. The 2014 survey was carried out by the Ghana Statistical Service and the Ghana Health Service. It is the sixth to be carried out and was used to collect data from 9,396 women between the ages of 15-49 years from 11,835 households.

This current study made use of the women's file. Out of a total sample of 9,396 women aged 15-49, the data were weighted and filtered by taking out women who had never married to obtain the sample size of 6302 for the current study. The sample also includes both ever married women and women who are cohabiting.

3.3 Dependent Variable

The dependent variable for the study is children ever born and this was measured by the total number of children a woman has prior to the survey. The dependent variable was operationalized

by asking women in the reproductive ages of 15-49 some questions about their fertility such as how many children the respondent has ever had and how many are alive. The dependent variable was used to analyze the impact of age at first marriage on children ever born.

3.4 Independent variable

The main independent variable in the study is age at first marriage. This was operationalized to include women who were cohabiting. This is because the GDHS definition of age at first marriage was defined as the age at first cohabitation. The control variables consist of the socio-demographic characteristics of women. These variables include the education of women which was categorized as women with no formal education, women with primary education and those with secondary or higher education. Also place of residence was categorized into rural and urban. The education of the partner was categorized as no education, primary, secondary, higher and don't know. Ethnicity was categorized into Akan, Ga-Dangme, Ewe, Guan, Mole Dagbani, and Gruma/Grussi/Mande/other for the other ethnic minorities. Religion was placed into different categories namely Catholic, Protestants, Pentecostals, Muslims, Traditionalists, Other Christians and no religion. Again the region of residence was categorized into the ten administrative regions of Ghana whilst the wealth index was put into categories; namely poorest, poorer, middle, richer and richest.

3.5 Method of Analysis

Different types of methods were used in the analysis of the data. At the univariate level frequency tabulations were used to describe the background characteristics of the respondents.

ANOVA and correlation were employed for in the bivariate analysis to determine the effect of the control variables such as education of the woman, place of residence, ethnicity, religion, region of residence, education of partner and the woman's wealth status on the dependent variable. Correlation was used to study the relationship between age at first marriage and children ever born, because both are continuous variables. The statistical software package (SPSS) was used in the analysis.

Also multiple regression analysis was done using children ever born as the dependent variable and the other socio-demographic characteristics as the independent variables. The regression analysis was done to examine the net effect of age at first marriage and other socio-demographic variables on fertility. Three models were run; the first testing the relationship between the independent and dependent variables, and then the second models test the effect of age at first marriage on children ever born after controlling for the respondents background characteristics. The final model tested the intermediate role of contraception in the relationship between age at first marriage and children ever born. These regression analyses were conducted by the use of the Ordinary Least Square (OLS).

CHAPTER FOUR

ASSOCIATION BETWEEN THE SOCIO-DEMOGRAPHIC VARIABLES AND CHILDREN EVER BORN

4.1 Introduction

This section analyzes and describes the socio-demographic characteristics of the study population and the statistical associations between the dependent and the independent variables. This provides information on the variables of interest and how each of them is related to the dependent variable. These socio-demographic and economic characteristics are the independent variables, which include the age at first marriage, education, the type of place of residence, ethnicity, religion, husband's education, region of residence and wealth index. The socio-demographic characteristics of the respondents have influence on their lives in general including their fertility. These independent variables are analyzed and explained through the use of percentages and frequencies.

4.2 Age at first marriage and Children ever born

Regarding age at first marriage, the minimum observed age at which a female got married was 10 years while the maximum was 46 years, with a mean age of 19.97 years and a standard deviation of 4.886. The children ever born by women aged 19-46 ranged from a minimum of 0 and a maximum of 13 children. The mean children ever born is 3.39 with a standard deviation of 2.224

Table 4.1 Descriptive statistics of the dependent and independent variables

	Mean	Std Dev	Min	Max
Total number of children ever born	3.39	2.224	0	13
Age at first marriage	19.97	4.886	10	46

Source: Computed from the GDHS, 2014 dataset

4.3 Description of the background characteristics

4.3.1 Place of Residence

From table 4.2 out of a total sample of 6302 women interviewed 51 percent were urban dwellers and 49 percent were living in the rural areas. This implies that majority of the women lived in the urban areas.

4.3.2 Partners' highest level of education

Table 4.3 shows that about half (50 percent) of respondents' husbands had secondary education and this was the highest followed by 26 percent for husbands with no education. About 19 percent had primary education with 5 percent having higher education.

4.3.3 Woman's highest level of education

In terms of educational attainment, over half of the women in the study (about 58 percent) had attained secondary education and the women with no education constituted about 20 percent. About 12 percent of the women had attained a higher education with close to 9 percent having had primary education.

4.3.4 Religion

In all 41 percent of the women interviewed were Pentecostals and this was the largest religious grouping. The Protestants were the second largest religious group representing 23 percent of the total sample. Also, 16 percent of the women were Muslims; following closely was Other Christians with 15 percent. Traditionalist was the least religious group representing only 3 percent.

4.3.5 Ethnicity

In Table 4.2 almost half of the women were Akans with 49 percent, followed by Mole-Dagbanis, Ewe's and Grusi/Gruma/Mande representing 15, 13 and 10 percent respectively. Ga-Adangme was in the minority in the study followed by women in other ethnic grouping with 4 percent.

4.3.6 Region of residence

The respondents were interviewed from all the ten administrative regions of Ghana. Greater Accra had the highest representation with about 20 percent, followed by Ashanti region with a percentage of 19, and Western and Central Regions with about 11 percent respectively. Eastern region polled about 10 percent of the sample with Northern representing 9 percent. The Volta and Brong Ahafo regions polled about 8 percent of the sample each, with the Upper East and West representing 4 and 2 percent respectively.

4.3.7 Wealth index

It is important to note that the higher the woman's position in the wealth index, the more likely she is to use contraceptives because such a woman is more likely to be educated and will be well-informed about contraceptive use and the need for a smaller family size hence leading to a reduction in children ever born.

Table 4.2 indicates the percentage distribution of the study sample according to their wealth index. The women in the richest class wealth index have the highest percentage of 22 percent, with the richer and middle class women both following at 21 percent each. Both the poorer and poorest represented 18 percent of the respondents.

Table 4.2 Background characteristics of respondents

Variable	N=6302
	Percent
Place of residence	
Urban	51.1
Rural	48.9
Region of residence	
Western	10.6
Central	10.5
Greater Accra	19.5
Volta	7.8
Eastern	9.5
Ashanti	18.5
Brong Ahafo	7.9
Northern	9.4
Upper East	4
Upper West	2.4
Ethnicity	
Akan	49.2
Ga-Dangme	7.7
Ewe	13.3
Mole-Dangbani	15.3
Grusi/Gruma/Mande	10.2
Other	4.3
Religion	
Protestant	22.5
Pentecostal	41.1
Islam	15.6
Traditionalist	2.5
Other Christian	15
No religion	3.3

Woman's highest level of education	
No education	19.6
Primary	8.6
Secondary	57.5
Higher	11.9
Partners highest level of education	
No education	26.3
Primary	19.2
Secondary	49.6
Higher	4.9
Wealth index	
Poorest	17.6
Poorer	18.1
Middle	20.6
Richer	21.3
Richest	22.4
Contraceptive use	
Using modern method	21.7
Using traditional method	4.1
Non-user - intends to use later	25
Does not intend to use	49.2

Source: Computed from the GDHS 2014 dataset

4.3.8 Contraceptive Use

From Table 4.2, it can be observed that about 22 percent of the women studied used modern methods of contraception while 4 percent used the traditional method. Exactly 25 percent of respondents were presently not using any form of contraception, but intended doing so later, while 49 percent did not intend using contraceptives at all.

4.4 Background characteristics of the study population and children ever born

This section analyzes the relationship the independent and control variables have on the dependent variable - children ever-born. A bivariate analysis was performed to examine the

association between the socio-demographic variables and fertility. Analysis of variance (ANOVA) and correlation was used to test the statistical association between the independent variables and the dependent.

4.4.1 Age at first marriage and children ever-born

Table 4.3 shows that there is a weak negative relationship between age at first marriage and children ever-born. This is because the higher the age at first marriage, the fewer the number of children ever-born. In Africa and in many other parts of the world there has been an increase in the age at first marriage which has brought about a decline in fertility levels (United Nations, 2013). Also in Ghana, there is an indication of a moderate rise in the age at first marriage leading to a slight reduction in fertility levels (GSS, GHS, & ICF, 2015).

Table 4.3: Age at first marriage and children ever born

Age at first marriage	Children ever born		
	Pearson R	Sig. (2-tailed)	N
	-.289**	p<0.0001	6302
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Computed from the GDHS 2014 dataset

4.4.2 Woman's education and children ever-born

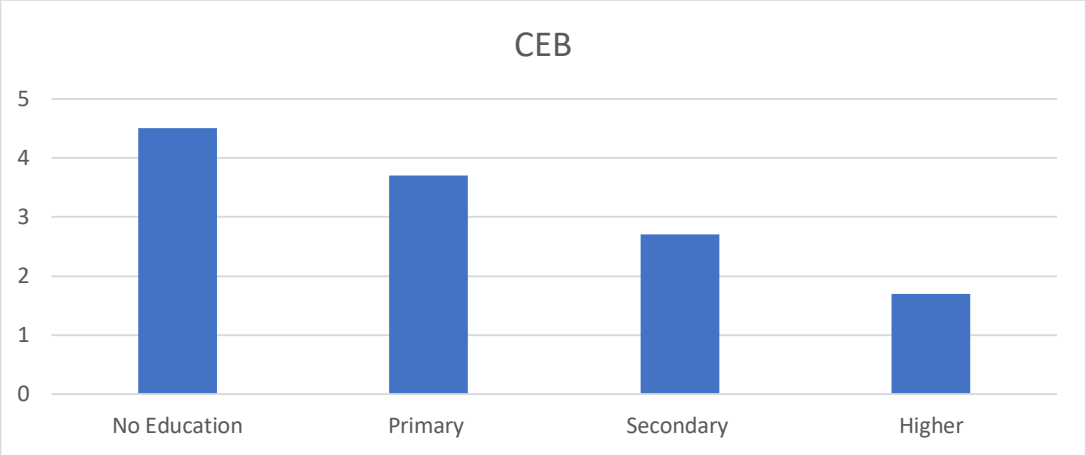
Table 4.4 shows that there is a significant association between a woman's education and total number of children ever-born (F=306.54, P<0.0001). This goes to confirm what is stated in the literature that women who are highly educated have a fewer number of children than women who have no or low level of education (Basu, 2002; J. R. Weeks, 2008). Education is an important socio-demographic indicator which works to influence the individuals' attitude and behavior. It helps the individual to make informed decisions about issues including child birth. It is important to note that female education leads to a reduction in fertility levels (Armah, 2014).

Table 4.4: ANOVA table comparing women's education and children ever born

	N	Mean Square	Std. Deviation	F	Sig.
Between Groups	3969.70	3	1323.23	306.54	.000
Within Groups	27186.10	6298	4.32		
Total	31155.80	6301			

Source: Computed from the GDHS 2014 dataset.

Figure 4.1: Women's education and Mean number of children



There was a significant association between educational status of the woman and children ever born, from the means plot in figure 4.1, we observed that as educational attainment increased the mean number of children per educational status reduces.

4.4.3 Religion and children ever-born

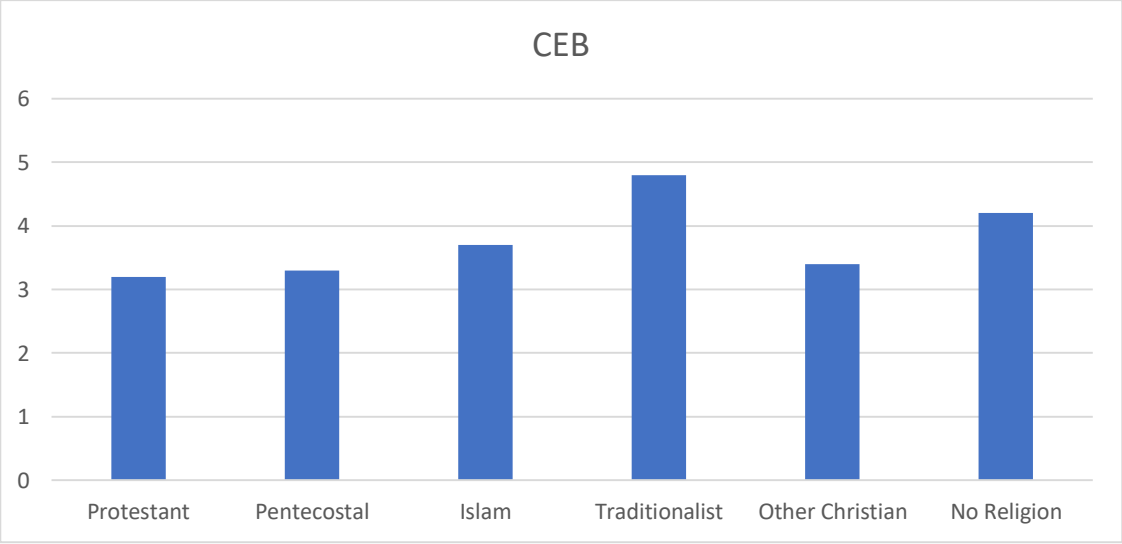
Table 4.5 shows that there is a statistically significant association between religion and children ever-born. This is because the religious beliefs of a women can influence her level of fertility (Zhang, 2008). Religious groups such as Moslems and Catholics do not accept contraceptive use. Women who belong to such religious groups are more likely to have a higher number of children than women who are not affiliated to such religion.

Table 4.5 ANOVA table comparing religion and children ever born

	N	Mean Square	Std. Deviation	F	Sig.
Between Groups	757.55	5	151.51	31.38	.000
Within Groups	30398.25	6296	4.83		
Total	31155.80	6301			

From the means plot in figure 4.2 women who are members of the traditional religion had the higher number of children with about 4.9 births per woman, following closely was women of no religious affiliation with 4. 3 births then Muslims with a mean of 3.7 births per woman. Christians (Pentecostals and Protestant) on the other hand had fewer births per woman compared with Traditionalist and Muslims. With higher births recorded among the Traditionalist, this may be as a result of higher emphasis placed on children being assets within the traditional and Islamic settings.

Figure 4.2: Religious Affiliation and Mean Number of Children



Source: Computed from the GDHS 2014 dataset

4.4.4 Ethnicity

Table 4.6 shows that there is a statistically significant association between ethnicity and children ever born (F=15.52, p<0.001). The Northern ethnic groups comprising of the Mole-Dagbani, Grusi, Gruma and the Mande generally have higher average number of children ever born (3.7 and 3.8 respectively) whilst the southern ethnic groups, which is made up of the Akans, Ga-Dangme, Ewe and the other groups have fewer number of children. Predominantly whilst the Mande have the highest mean number of children, the Ga-Dangme have the least mean number of children (Figure 1). This is because ethnicity influences children ever born (Weeks & Iyer, 2009). Women who belong to ethnic groups that value having a higher number of children and practice polygamy will have a higher number of children compared to those who do not belong to such ethnic groups.

Table 4.6: Ethnicity and total children ever born

Ethnicity	N	Mean	Std. Deviation	Minimum	Maximum
Akan	3100	3.33	2.196	0	13
Ga-Dangme	484	3.01	1.936	0	10
Ewe	837	3.13	2.135	0	13
Mole-Dangbani	967	3.70	2.293	0	12
Grusi/Gruma/Mande	641	3.83	2.474	0	12
Other	273	3.26	2.125	0	10
Total	6302	3.39	2.224	0	13
F=15.52, p<0.001					

Source: Computed from the GDHS 2014 dataset

4.4.5 Partner's education and children ever born

Table 4.7 indicates that there is a statistically significant association between a husband's education and total number of children ever-born (F= 129.82, p<0.001). This goes to support the

fact that women whose husbands are highly educated are more likely to have fewer numbers of children. This is because such highly educated men are more likely to desire for smaller number of children and are more likely to use contraceptive (Derose & Ezeh, 2005; Gubhaju, 2009). On the other hand, husbands with no or low education are more likely to have a higher number of children due to their preference for higher number of children.

Table 4.7: Partners' education and Mean children ever born

Partner's Education	N	Mean	Std. Deviation	Minimum	Maximum
No education	1237	4.4	2.4	0	13
Primary	544	3.9	2.3	0	12
Secondary	3620	3.1	2.1	0	13
Higher	749	2.4	1.7	0	10
Don't know	149	3.7	2.5	0	10
Total	6299	3.4	2.2	0	13
F=129.821, p<0.001					

Source: Computed from the GDHS 2014 dataset

Table 4.8 indicates a significant difference in total children ever born by type of place of residence (F=318.05, p<0.001). Women resident in rural areas have significantly higher children (mean is 3.88) than women in urban areas (mean is 2.91).

Table 4.8: Type of place of residence and mean children ever born

Type of place of Residence	N	Mean	Std. Deviation	Minimum	Maximum
Rural	3081	3.88	2.34	0	13
Urban	3221	2.91	1.99	0	13
Total	6302	3.39	2.22	0	13
F=318.05, p<0.001					

Source: Computed from the GDHS 2014 dataset

4.4.6 Region of residence

Table 4.9 shows that there is a significant difference in the total number of children ever born in the 10 regions (F = 27.90, p<0.001). Whilst women in Northern region have the highest number of children (4.08), Greater Accra women had the lowest mean number of children (2.54).

Table 4.9: Region of residence and mean children ever born

Region of Residence	N	Mean	Std. Deviation	Minimum	Maximum
Western	666	3.25	2.171	0	12
Central	665	3.50	2.292	0	10
Greater Accra	1227	2.54	1.780	0	10
Volta	489	3.47	2.187	0	13
Eastern	600	3.56	2.258	0	12
Ashanti	1163	3.63	2.211	0	11
Brong Ahafo	500	3.51	2.258	0	13
Northern	591	4.08	2.488	0	12
Upper East	249	3.64	2.164	0	11
Upper West	152	3.92	2.422	0	11
Total	6302	3.39	2.224	0	13
F=31.30, p<0.001					

Source: Computed from the GDHS 2014 dataset

4.4.7 Wealth index

Table 4.10 indicates that there is a significant relationship between wealth index and children ever-born. From the table, the category with the highest number of children born was the poorest (mean=4.38) with the richest having the lowest number (mean=2.36). Wealth status influences children ever born. Studies done by Weerasinghe & Parr,(2002) points to the fact that there is a negative relationship between wealth status and fertility. They further explained that a higher level of wealth is linked to lower level of fertility. On the other hand, a report by UNICEF (2015)

indicated that women from poorer households tend to marry early and have a higher number of children.

Table 4.10: Wealth Status and mean children ever born

Wealth Status	N	Mean	Std. Deviation	Minimum	Maximum
Poorest	1106	4.38	2.521	0	12
Poorer	1142	4.24	2.334	0	13
Middle	1300	3.44	2.109	0	11
Richer	1343	2.87	1.838	0	9
Richest	1411	2.36	1.646	0	12
Total	6302	3.39	2.224	0	13
F=217.37, p<0.001					

Source: Computed from the GDHS 2014 dataset

CHAPTER FIVE

Multiple regression results of age at first marriage and children ever born

5.1 Introduction

This chapter examines the net effect of age at first marriage on children ever born. This was done because children ever born among women in Ghana are affected by a wide range of variables and not just the age at first marriage. Ordinary least square regression models were employed to examine the net effect of age at first marriage on children ever born whilst controlling for the other determinants of children ever born. The regression analysis was undertaken using children ever born as the dependent variable and the other socio-demographic characteristics such as education, place of residence, religion, ethnicity, region of residence and wealth index as independent variable.

5.2 Multiple linear regressions showing the relationship between age at first marriage and children ever born.

This section shows the results of multiple linear regressions between age at first marriage and children ever born. The independent effect of age at first marriage on children ever born is presented in model 1. The effect of age at first marriage after controlling for other background characteristics is presented in model 2. Model 3 includes the intermediate effect of contraceptive use.

The co-efficient of determination at model 1 shows that age at first marriage independently explains 8.4% of variation in children ever born. Model 1 shows further that there is a significant

inverse relationship between age at first marriage and children ever born; specifically an additional year in the age at first marriage results in 0.132 fewer children (Table 5.1). This results supports works done by Paping, (2007), Palamuleni, (2011) Nag & Singhal, (2013).

In model 2 the other background characteristics which includes the woman's education, partner's education, and type of place of residence, region of residence, ethnicity, and religion and wealth index were controlled for in model 2. The inclusion of the control variables increased the proportion of the variation in children ever born that the model explains from 8.3 percent in model 1 to 21.6 percent in model 2. The model also shows that after controlling for the socio-demographic variables, an additional year in the age at first marriage results in 0.079 fewer children, compared to 0.132 fewer children in model 1.

Model 2 indicates that husbands with primary education will have 0.271 fewer numbers of children than husbands who have no education. Also husbands who have secondary and higher education will give birth to 0.4 and 0.339 fewer numbers of children respectively than husbands with no education. This results supports works done by Derose & Ezeh, (2005) that a husband's education exerts a stronger influence on a wife's reproductive intentions and decisions. For example in Ghana lower fertility seems to be linked more with men's declining fertility desires than with that of the woman, (Adomako, 2000). Also according to Derose, (2002) no matter the educational level of women they still respects the wishes of a husband who intends to stop childbearing.

Using urban as a reference category, the predicted children ever born for rural women will be 0.143 fewer children as compared to women who live in urban areas. There was a statistically significant relationship between wealth status of the woman and children ever born. Women in the middle class wealth index will have 0.814 fewer numbers of children than the poorest

women. On the other hand women who fall within the richer and the richest wealth index will have 1.188 and 1.350 fewer numbers of children respectively than the poorest women. This result is supported by works done by Weerasinghe & Parr, (2002) which showed that women with high income and higher levels of household wealth is associated with lower fertility.

The model table also portrays a statistically significant association between the education of a woman and children ever born. The women with primary level of education have 0.632 fewer numbers of children than those with no education. Also women with secondary and higher education have 1.138 and 1.581 fewer numbers of children respectively than women with no education. This results supports the works done by Gupta & Mahy, (2003) and Gunes (2013), that there is a strong relationship between women's education and reduced childbearing and that in many African countries women with no education have about two to three children more than women with secondary or higher education.

Compared to women in the Greater Accra region women in the Ashanti region have 0.49 extra numbers of children whilst women in the Northern and Upper East regions had 0.587 and 0.706 fewer numbers of children respectively. The model further indicates that women in Upper West have 0.449 fewer numbers of children than women in the Greater Accra region whilst women in the Eastern region have 0.235 more children than those living in Greater Accra. On the other hand the Western, Central, Volta, and Brong Ahafo regions did not have any significant effect on fertility.

Women who live in regions in which the cost of living is very high, and child rearing is very expensive and there is easy access to education and contraceptive use are more likely to give birth to a smaller number of children. On the other hand, a report by UNICEF (2016) pointed out that various measures have been put in place by the government and stake holders to end child

marriage in Northern Ghana and this could possibly explain why there is declining fertility levels in these areas as being indicated by the results of this study.

The customs, beliefs and cultural practices in the Ashanti region such as early marriage and child birth, low level of deliberate fertility control through the use of modern contraception, easy access to marriage, a permissive attitude towards multiple partners, fosterage, a supportive kingship and supportive household pattern which makes child rearing less of a burden to parents, accounts for the high level of fertility in some regions including the Ashanti region (Gaisie and Cudjoe, 1988) women who reside in the Ashanti region showed significant effect on children ever born with a significance of 0.000.

Another reason cited for the high fertility in the Ashanti region is the fact that there is a mean high number of children ever born among rural women, which may be due to high demand for hands to help in the peasant farms (GSS; 2013).

The model again shows that compared to the Ga-dangme, the Akans have 0.451 higher number of children. There was no significant association between Ewe and Other ethnic groups.

Model 2 shows that with the exception of Traditionalists all other religions do not have any significant effect on children ever born using Protestants as a reference category. Traditionalists have 0.595 more children than Protestants. This result is supported by a study done by Westoff & Bietsch, (2015) in which, it was observed that most of the religions that have high fertility encourages early marriage, procreation of large families, less use of contraceptives and polygamy. Also in a study done by Adongo, Phillips, & Binka, (1998) it was revealed that Traditionalists have more children due to the high value which they placed on early marriage,

high fertility, son preference and early childbirth. Traditionalists see high fertility as a virtue and the cessation of reproduction as a sin.

In model 3 the intermediate effect of the relationship between age at first marriage and children ever born and other background characteristics including contraceptive usage were controlled for.

Model 3 indicates that a unit rise in age at first marriage will reduce number of children ever born per woman by 0.079. Compared to women in the Greater Accra region women in the Ashanti region had 0.5 more children whilst women in the Northern, Upper East and Upper West regions had 0.542, 0.67 and 0.405 fewer number of children respectively. For Ethnicity, only Akan women displayed any significant association with children ever born as compared to Ga-Dangmes. Furthermore, Traditionalist women were the only group noted among the various religions to show any significant association with fertility, with the propensity to have 0.574 more children compared to Protestants.

In addition in Model 3, it can be observed that as woman's educational status increases, number of children decreases steadily. The same pattern can be observed for husband education as well. In relation to Wealth index, it can still be seen that there is a progressive trend of women having lesser children as their wealth status improves.

In relation to contraception use, using women who use modern method as reference, women who intended to use contraceptives later had 0.346 fewer children displayed a significant association with fertility, by having 0.346 fewer children.

It is worth noting that the intermediate effect of contraception on the relationship between age at first marriage and children ever born is only marginal. Without the effect of contraceptive use, an

additional year in age at first marriage resulted in 0.079 fewer children compared to 0.078 when contraception is controlled for (models 2 and 3 respectively of table 5.1)

If age at first marriage was 0, the total number of children that will be born is about 7 children. From the model summary, 47.2 percent of the variation in the number of children ever born to a woman is explained by the socio-demographic variables. Model 3 explains 21.9 percent of the variation in total number of children ever born, compared to 21.6 in model 2 and 8.3 in model one (Table 5.1). This means that contraceptive use marginally adds to the explanation of the variance in children ever born.

Table 5.1: Multi-variety table showing the relationship between the socio-demographic variables and children ever born.

	Model I			Model II			Model III		
	B	**sig**	**[C. I]**	**B**	**Sig**	**[C. I]**	**B**	**sig**	**[C. I]**
(Constant)	6.013	p<0.0001	[5.79, 6.23]	6.594	p<0.0001	[6.24, 6.95]	6.674	p<0.0001	[6.31, 7.04]
Age at first cohabitation	-.132	p<0.0001	[-0.14, -0.12]	-.079	p<0.0001	[-0.09, -0.07]	-.078	p<0.0001	[-0.09, -0.07]
Type of place of residence									
Urban (RC)									
Rural				-.143	.043	[-0.28, 0.]	-.135	.056	[-0.27, 0.]
Region of residence									
Greater Accra (RC)									
Western				-.138	.190	[-0.34, 0.07]	-.140	.183	[-0.35, 0.07]
Central				.092	.391	[-0.12, 0.3]	.091	.397	[-0.12, 0.3]
Volta				-.093	.469	[-0.35, 0.16]	-.084	.514	[-0.34, 0.17]
Eastern				.235	.026	[0.03, 0.44]	.249	.019	[0.04, 0.46]
Ashanti				.490	p<0.0001	[0.32, 0.66]	.501	p<0.0001	[0.33, 0.67]
Brong Ahafo				-.102	.375	[-0.33, 0.12]	-.087	.451	[-0.31, 0.14]
Northern				-.587	.000	[-0.84, -0.33]	-.542	p<0.0001	[-0.8, -0.28]
Upper east				-.706	.000	[-1.02, -0.39]	-.670	p<0.0001	[-0.98, -0.36]
Upper west				-.449	.016	[-0.82, -0.08]	-.405	.030	[-0.77, -0.04]
Ethnicity									
Ga-Dangme (RC)									
Akan				.451	p<0.0001	[0.3, 0.6]	.445	p<0.0001	[0.3, 0.59]
Ewe				.183	.075	[-0.02, 0.38]	.182	.075	[-0.02, 0.38]
Other				-.070	.652	[-0.37, 0.23]	-.052	.736	[-0.36, 0.25]
Religion									
Protestants (RC)									
No religion				.158	.290	[-0.14, 0.45]	.174	.244	[-0.12, 0.47]

Pentecostals				-.060	.360	[-0.19, 0.07]	-.066	.316	[-0.2, 0.06]
Islam				.046	.622	[-0.14, 0.23]	.038	.685	[-0.14, 0.22]
Traditionalists				.595	.001	[0.25, 0.94]	.574	.001	[0.23, 0.91]
Other				.060	.473	[-0.1, 0.22]	.055	.509	[-0.11, 0.22]
Woman's education									
No education (RC)									
Primary				-.632	p<0.0001	[-0.79, -0.47]	-.619	p<0.0001	[-0.78, -0.46]
Secondary				-1.138	p<0.0001	[-1.29, -0.98]	-1.122	p<0.0001	[-1.28, -0.97]
Higher				-1.581	p<0.0001	[-1.87, -1.29]	-1.565	p<0.0001	[-1.86, -1.27]
Husband's education									
No education (RC)									
Primary				-.271	.009	[-0.48, -0.07]	-.270	.010	[-0.47, -0.07]
Secondary education				-.400	p<0.0001	[-0.55, -0.25]	-.390	p<0.0001	[-0.54, -0.24]
Higher				-.339	.002	[-0.56, -0.12]	-.346	.002	[-0.56, -0.13]
Wealth Status									
Poorest (RC)									
Poorer				-.198	.041	[-0.39, -0.01]	-.197	.041	[-0.39, -0.01]
Middle				-.814	p<0.0001	[-1.02, -0.61]	-.823	p<0.0001	[-1.03, -0.62]
Richer				-1.188	p<0.0001	[-1.42, -0.95]	-1.197	p<0.0001	[-1.43, -0.96]
Richest				-1.350	p<0.0001	[-1.62, -1.08]	-1.359	p<0.0001	[-1.63, -1.09]
Contraceptive usage									
Modern method (RC)									
Traditional							-.110	.421	[-0.38, 0.16]
Intends to use later							-.346	p<0.0001	[-0.49, -0.2]
No intention of using							-.055	.397	[-0.18, 0.07]
Model Summary									
R	.289[a]			.469[a]			.472[a]		

R Squared	.084	.220	.223
Adjusted R Squared	.083	.216	.219
Standard Error	2.129	1.969	1.965

Source: Computed from the GDHS 2014 dataset

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of findings

The main aim of the study is to examine the relationship between age at first marriage and children ever born among women in Ghana.

The study sample was derived from the Ghana demographic and health survey 2014 dataset involving 6302 women aged 15 to 49 who have ever been in marital union including those cohabiting. These respondents were drawn from all the ten regions of Ghana. Cohabiting women were added to the sample because they are also exposed to the risk of childbearing.

Simple frequencies and percentages were used to describe the background characteristics of the sampled population and linear regression analysis was used to examine the relationship between age at first marriage and children ever born.

Three hypotheses on the relationship between ages at first marriage, place of residence and children ever born were tested.

The study revealed that the median age at first marriage in Ghana is early, at about 21 years. This is low compared to the global average of 25 years. The univariate and bivariate analysis shows that there is a weak negative relationship between age at first marriage and children ever born. This confirms the hypotheses that the age at first marriage is inversely related to children ever born. This was further supported by studies done by Garenne, (2004) and Solanke (2015), that higher age at first marriage can lower fertility.

The bivariate analysis shows that there is a significant association between a woman's education and total number of children ever born. From the multivariate analysis the women who had primary, secondary and higher education have a fewer number of children than the women who had no education who have a larger number of children. The study confirms the hypothesis that women who had attained higher education are more likely to have a fewer number of children than women with no education. This is also supported by works done by Hirschman, (2000) and Basu, (2002) that women with higher education have fewer children than women with low or no education.

The study shows that there is a significant difference in total number of children ever born by type of place of residence. Women resident in rural areas have significantly higher number of children than women in urban areas.

Furthermore the study showed that fertility is higher among women who belong to the traditional and the Islamic religions. Just like the traditionalists, the Islamic religion encourages early marriage, polygamy, having larger family sizes and less use of modern contraceptives. In sub-Saharan Africa for example, religious beliefs and values have been reported to be some of the hindrances to fertility decline. This goes to show that religious norms and beliefs can influence children ever born (Zhang, 2008). The study therefore supports works done by (Bakibinga et al., 2015) which showed that religion influences fertility.

According to Weerasinghe & Parr, (2002) higher levels of household wealth is associated with lower fertility. Wealth index is therefore negatively associated with fertility. Women from poorer backgrounds have a higher number of children ever born.

Also in the study the region of residence had a significant effect on fertility. There was high fertility particularly in the Ashanti region. This high fertility in the Ashanti region was confirmed in a Ghana Statistical Service, (2013) report which stated that there is high fertility among rural women in the region.

6.2 Conclusion

The findings from the study show that there is early marriage in Ghana since the median age at first marriage stands at 21 years. A number of factors which includes poverty, women low level of education, ethnicity, religion, the place of residence, region of residence and polygamy accounts for the practice of early marriage in the country. Hence it is important for policy makers to work and pay particular attention to all the factors that influences the age at first marriage and fertility in Ghana. Also they have to work to ensure that poverty is kept at a lower level in the country since this pushes girls especially into early marriage. There is the need to ensure the education of the girl child beyond the primary level of education. Again measures must be put in place to ensure that no girl child is left uneducated since this will work to keep girls in school thereby leading to a rise in the age at first marriage.

Also the study further reveals that the total fertility rate currently stands at 4.2 children per woman which is still high when compared to the global average of 2.53. It is therefore important for policy makers to pay attention to the age at first marriage since that accounts for the rise in fertility levels and also accounts for high rate of population growth in Ghana.

6.3 Recommendations

It is seen from the study that early marriage is a contributing factor to the high level of fertility among women in Ghana. In order to achieve low fertility, there is the need to encourage young girls to attend school. The practice of giving higher admission quotas to females should be encouraged. There is the need to educate and empower all women, so as to save them from early marriage and childbirth.

Policy makers should work to formulate policies that will abolish ethnic, cultural and religious practices that encourage early marriage and high fertility in Ghana specifically in rural areas. There is also the need to educate both the promoters and practitioners of early marriage and child birth on the dangers associated with the practice, so as to bring about a change in their attitudes.

Policy makers should work to create wealth for the people especially women in Ghana since they are the most vulnerable group in the country. This when done will raise the age at first marriage and will also lead to a reduction in fertility as is the case in most developed countries of the world.

Also the law on the legal age at first marriage should be strictly enforced so as to deal drastically with parents and older men who force young girls and children into marriage. This when properly done will lead to a decline in early marriage and childbirth in the country.