## THE RELATIONSHIP OF MARRIAGE TYPE TO FERTILITY:

THE CASE OF GHANA

BY

ROGER W. Y. KLOMEGAH

A Thesis

Submitted to the Faculty of Graduate Studies

in Partial Fulfilment of the Requirements

for the Degree of

MASTER OF ARTS

Department of Sociology University of Manitoba Winnipeg, Manitoba

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A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

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### ABSTRACT

The study investigates the influence of marriage type on the fertility of married women in Ghana using a sample of 1797 wives from the Ghana Demographic and Health Survey (GDHS) data (1988). Regression analysis indicates that when marital age, marital duration, length of postpartum abstinence and education are controlled for, there is no statistically significant relationship between marriage type and fertility. The most important determinants of differential fertility by marriage type from the Ghanaian sample appears to be marital age, marital duration, abstinence and education. Other issues addressed are the prevalence of polygyny, and the socio-economic correlates of marriage type. It is shown that the sample is characterized by general polygyny. Marriage type is significantly associated with the educational level, religious affiliation and place of residence of sample wives; but not their occupation.

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#### **CHAPTER ONE**

#### INTRODUCTION

#### 1.1. The Problem and Purpose of the Study

This study examines the influence of marriage type, i.e., monogamy and polygyny, on the fertility of married women in Ghana. Marriage type in Africa is an aspect of socio-cultural organization that differs from that of European tradition. For instance, in Ghana both monogamous and polygynous marriages exist and the latter is socially and legally acceptable (Hillman, 1975). Also, marriage, be it monogamy or polygyny, is not only a union between a man and a woman, but more importantly, it is an alliance between two families or kin groups. The elders (seniors) play a central role and may even arrange the marriage according to the interests of the extended kin group (Price, 1956: 12).

The importance of this study is the socio-cultural meaning of marriage in relation to the fertility of women in Ghana. In tropical Africa, high fertility is encouraged by the culture, and there are strong family and kinship pressures on adults to have children. This is because of the value of children for economic utility, emotional support and oldage security they provide for parents. Marriage is, therefore, an important phase in the life-cycle of an African adult and remains an important social institution within which most births occur. In Ghana for instance, marriage is a sign of maturity and adulthood, testable by procreation. The importance of marriage and procreation in tropical African society can be seen in the fact that "celibacy, sterility, barrenness, or even limited fertility are regarded not merely as a humiliation and misfortune, but as a curse which needs propitiation. In some societies, the adult man or woman who cannot marry is not only ridiculed, but is a social nonentity...." (Ukaegbu, 1981: 133). For these reasons, analysis of data that relates to the marriage institution "is very important for an understanding of one the social mechanisms which regulate the levels of fertility in Ghanaian society" (Central Bureau of Statistics, 1983: 36).

The foregoing discussions show how intense attitudes towards marriage and procreation are in the region. The one type of marriage that has attracted much attention is polygyny because it is widely practised (Ukaegbu, 1981), and is believed to have contributed to high fertility in the region (Weekes & Vagliani, 1976: 17,43; Nag, 1975: 15).

This study is a comparative examination of the influence, as mediated by other selected variables, of monogamous and polygynous marriages on the fertility of women in these unions. The reasons for choosing this topic for study are: (1) the importance of the marriage institution in the formation of households and extended families in Ghanaian culture, (2) the controversy and lack of conclusive clarity surrounding the impact of marriage types on the fertility of women in Africa, and (3) personal interest. However, it must be emphasized that fertility in tropical Africa has been so much influenced by a host of social and economic institutions such as formal education, urbanization, and religion that it would not be a simple task to examine the total set of relevant relationships. Therefore, in this study, I wish to examine only one aspect of the socio-cultural organization that influences the fertility of women in Ghana. This choice does not, in any way, suggest that marriage type is the most important correlate of fertility.

In fact, as Burch and Gendell (1970) have noted, marriage type could be regarded, in certain cases, as "secondary to that of economic, religious, ecological or other nonfamilial factors." These factors get built into the personalities of individuals involved marriage and family life. Caldwell (1976), for example, gives much weight to economic factors as conducive to fertility. Lorimer (1954) has focused on religious and cultural factors as shaping the attitudes of parents towards having many children. Therefore, these socio-cultural and economic factors can be treated as causal or independent factors in similar studies. But it is beyond the scope of this study to delve into such nonmarital and nonfamilial factors.

A range of conditions, attitudes and practices is associated with type of marriage in Ghana, e.g., the age at marriage, the length of postpartum abstinence, frequency of mating, and the age difference between spouses can differ for both types of marriage. It is believed that the influence of marriage type and its associated conditions on fertility can differ for each type of marriage (Aryee & Gaisie, 1979: 287). Secondly, it is a commonly held belief that polygyny is positively associated with fertility (Nag, 1975: 15; Weekes & Vagliani, 1976: 43)). This belief stems from the fact that, in the long run, men in polygynous households tend to have more children than men in monogamous households. But this does not necessarily mean that individual women in polygynous households have more children than individual women in monogamous households. Since fertility is measured by number of children per woman, it would be erroneous to equate the number of children a man has with fertility. In Africa, polygyny is perceived by men as a means of producing large families or what Clignet (1970: 29) has termed "numerous posterity." But the question of whether polygyny may not actually decrease the number children born to each wife remains debatable. This is the research question that this study will attempt to address. That is, is there a difference between the fertility of women in polygynous marriages and those in monogamous marriages in the same social milieu? The numerous studies that have been done on this subject have produced what is known as "the polygyny-fertility hypothesis" (Bean & Mineau, 1986: 67) which stipulates that polygyny depresses the fertility of individual women in polygynous marriages. Fertility in this case refers to the number of children women bear.

The argument for the polygyny-fertility hypothesis is that it is possible that "a woman who shares her (polygynous) husband with another wife or wives will have less frequent coitus than the only wife of a monogamous husband, living in the same social and cultural milieu" (Musham, 1956:3). It is also assumed that polygynous men are less sexually active than monogamous men because of their age. Usually they are men 50 years old and over and this affects their sexual activity. The reason why polygynous men are usually older is that, each marriage requires bride-wealth<sup>1</sup>, and most often it is the older men who can afford to pay additional bride-wealth for additional wives.

<sup>&</sup>lt;sup>1</sup>Bride-wealth or bride-price "is the goods and services which either the bridegroom or his family must pay to the bride's family as a compensation for the emotional, social and economic loss resulting from her marriage" (Clignet, 1970: 23). It is a kind of marriage payment. A payment in this context does not necessarily mean a price, and it can be made in different transactions which are not commercial (Mair, 1969: 5).

There is also the belief that the long duration of prescribed post partum abstinence has a depressing effect on fertility in developing countries (Nag, 1968: 77; Clignet, 1070: 29). It is believed that post partum abstinence is observed more strictly in polygynous marriages than in monogamous ones (Dorjahn, 1958: 364) because polygynous men can have coitus with their other wives when one wife is in her post partum period. Thus the latter can observe the abstinence without disturbance from the husband (Nag, 1968:79). Since post partum abstinence is negatively related to fertility, its longer duration is likely to have a more depressing effect on fertility in polygynous marriages than in monogamous ones (Clignet, 1970: 29). Clignet has therefore hypothesized that the convergent or interactional effects of age of husband and postpartum abstinence might possibly lower the number of children born to individual women in polygynous marriages (Clignet, 1970: 29).

Previous empirical studies on the impact of marriage type on fertility have come up with varying results. The disagreement, according to Adewuyi (1988: 393), may be due to differences in quality of data, method of statistical analysis, choice and number of control variables, index of fertility used, variation in sample size, and areas of study. The present study further investigates this subject. It is also necessary to study the mechanisms through which marriage type influences fertility, i.e., how much variation in fertility is due to being in monogamous and polygynous marriages and can be accounted for by demographic factors or proximate determinants of fertility. In addition, there is a conspicuous paucity of data on this subject on Ghana. Therefore, the purpose of this study is not to settle the disagreement in the findings of past studies, but to bring additional data to bear on the subject in the context of Ghanaian society.

There are two problems connected with past studies that have not been dealt with effectively by the authors. These are problems relating to measurement and causation. On the problem of measurement of fertility, most previous studies used cumulative measures<sup>2</sup>. It is likely that some of the women could have contracted more than one form of marriage and have had children from previous marriages and have reported it as births from current marriages. Some researches have overlooked this and it might be a source of inaccurate interpretation of findings.

However, those who have attempted to overcome this drawback have made sure that the use of current fertility measures have cross-sectional characteristics, and cumulative fertility measures<sup>3</sup> have longitudinal characteristics. For instance, in doing cross-sectional studies, they have considered fertility of women only during periods close to the time of surveys so as to have some assurance of the reality, if any, of the relationship. However, the present study goes a step further in addressing this problem differently from previous approaches.

In Ghana, sterility of a first wife is one of the reasons for polygyny. More often than not, when a wife is infertile, the husband does not divorce her; rather he marries

<sup>&</sup>lt;sup>2</sup>Current fertility is the number of children born to each woman during the period preceding the survey (van de Walle, 1965: 302). For instance, it could be 12 months or 5 years preceding the survey.

<sup>&</sup>lt;sup>3</sup>Cumulative or retrospective fertility is the number of children ever born to each woman.

an additional wife. This raises the question of whether it is fertility that causes type of marriage rather than vice versa. Apart from Olusanya (1971), other previous investigators did not address this problem. Again, the present study will attempt to resolve the problem of causation.

The research questions to be addressed by this study are as follows:

(1) What is the prevalence of polygyny in Ghana?

(2) What social and economic indicators are associated with marriage type?

(3) Do the fertility levels of wives in monogamous marriages and polygynous marriages differ?

(4) What are the mechanisms responsible for differential fertility by marriage type?

#### **1.2.** Definitions

In a broad context, marriage is regarded as one of the fundamental aspects of the institution of the family which exists in all human societies (Nett, 1988: 198). It is defined by Stephens (1964: 5)) as "... a socially legitimate sexual union, begun with a public announcement, and undertaken with some idea of permanence; it is assumed with a more or less explicit marriage contract which spells out reciprocal rights and obligations between spouses, and between the spouses and their future children."

The two major forms of marriage are monogamy and polygamy. Monogamy is the practice of being married to only one person at a time. Polygamy, also known as plural marriage is the general term that refers to all marriages involving more than one spouse (Leslie & Korman, 1985: 26). Hillman (1975: 10) refers to polygamy as contemporaneous or simultaneous polygamy, i.e., "more than one spouse at the same time." When a man marries more than one wife at the same time, it is known as simultaneous polygyny. On the other hand, when a woman marries more than one husband at the same time, it is referred to as simultaneous polygndry. This study is concerned with simultaneous polygyny and it will be referred to simply as polygyny.

Fertility is defined as "the frequency with which birth occurs in a population" (Yaukey, 1985: 334). It is also defined as "the actual reproductive performance of an individual, a group, or a population" (Haupt & Kane, 1991: 56). In this study, fertility is used in a narrower context to mean marital fertility, i.e., "the fertility of married persons" (Yaukey, 1985: 335). Fertility that occurs outside wedlock will be excluded since the objective of this study is to compare the association of marriage type with fertility, and because the women involved do not belong to any type of marriage. In other words, the study is concerned with legitimate fertility.

In the second chapter, a profile of Ghana - the setting of the study - is presented with the aim of acquainting readers with some of the relevant socio-economic features as well as political developments of that country. However, it is impossible to discuss all relevant features of Ghana due to scarcity of literature that pertains **specifically** to the country. Hence, Chapter Two is kept brief within the limits of available literature.

#### **CHAPTER TWO**

#### **GHANA: A BRIEF PROFILE**

This chapter introduces the reader, especially non-Ghanaian readers, to the country to which the study pertains. It aims at informing the reader about the major trends, developments and patterns in the various features of Ghana. The topics covered include geography, history, politics, economics, religions and population of Ghana. Most of the information presented here is culled from the Central Bureau of Statistics' (1983) *Ghana Fertility Survey 1979-80. First Report* and Radcliffe-Brown and Forde's (1987) *African Systems of Kinship and Marriage*.

### 2.1. Geography and Climate

The land area of Ghana is approximately 238,537 square kilometres (92,100 square miles). It is a West African coastal country with about 560 km. of coastal line. It lies about 4° 45' north of the Equator with a distance of about 850 km. from the coast to the north. The Greenwich Meridian (Longitude 0°) passes through Accra, the capital. The country is bordered in the North by Burkina Faso, in the West by Cote d'ivoire (the Ivory Coast), in the East by Togo and in the South by the Atlantic ocean.

Due to its geographical position, Ghana experiences two major air masses: the hot dry wind from the north, popularly known as harmattan and the cool Atlantic maritime wind from south-west.

The country has a uniformly high average temperature of between  $26^{\circ}$  C (79° F) and  $29^{\circ}$  C (84° F). This is also true for the relative humidity which is about 70% in the

south and 50% in the north. Generally, temperatures drop considerably at night due to the influences of alternating land and sea breezes.

Rainfall is highest in the southern part of the country; it is between 1270mm. and 2100mm. in April to July, and September to November. July to August and November to March are dry seasons. Rainfall is lower in the north, between 1100mm and 1270mm, and it occurs only in one season, between April and September, followed by a long dry harmattan season.

The country has three main vegetational zones, viz., the coastal scrub and grassland, the forest belt in the middle and south-west, and the hot savanna woodland in the north. The topography is mainly plateau with a few elevations.

#### 2.2. History of Political Development

Until Ghana's independence from British colonial rule on March 6, 1957, the country was called "the Gold Coast", a name given her by the Portuguese who first set foot there in the beginning of the 15<sup>th</sup> century. The name described the country's wealth in gold. Between the time the Portuguese discovered gold in 1471 until the British left in 1957, several European powers (monarchs) sent merchants and explorers there to have a share in the country's resources (e.g. gold and slaves). Among them were Prussia, Denmark, Sweden, Holland and England. They competed among themselves for the control of the land, and succeeded in building several castles and forts along the coast of Ghana which served as their trading posts. Of the 32 castles and forts in West Africa, as many as 29 are in Ghana. Eventually, the other European powers could no longer

compete with the British and handed over their possessions to the latter and left the shores of the Gold Coast for good.

Prior to being under British rule, the people of Ghana were divided into separate independent states and kingdoms each with its own political, cultural and social institutions. However, many of these states shared common cultural and social institutional practices. British colonial rule in Ghana began in 1844. During their era, they made various attempts to deprive the local rulers (chiefs) and the people of their inherent rights but were fiercely resisted by the people. Eventually, nationalist movements evolved that resulted in the agitation for self-government and independence which was achieved on March 6, 1957.

The first nationalist government was led by the late Dr. Kwame Nkrumah who ruled for about fifteen years from 1951 to 1966<sup>4</sup>. His type of government was African socialism. In 1964, he declared a one-party rule and became a dictator. In terms of economic planning, his government pursued "a policy of national economic planning based on public ownership of the means of production and distribution in the industrial, commercial and agricultural sectors, and it allocated the greater proportion of the country's resources to the provision of economic infrastructure, education and other social services" (Central Bureau of Statistics, 1983: 2).

<sup>&</sup>lt;sup>4</sup>The country was granted internal self government in 1951 before the granting of full independence on 6<sup>th</sup> March 1957 (Central Bureau of Statistics, 1983: 2).

The government's mammoth economic programs put the country into foreign debt and internal inflation. This unpleasant economic climate plus increasing opposition to the dictatorial one-party rule resulted in frequent political upheavals. This in turn led to introduction of the "Preventive Detention Act" aimed at imprisoning those who opposed the government. This unpopular Act eventually led to the overthrow of the government in a military coup d'etat in February 1966.

The succeeding military government (the National Liberation Council) ruled from February 1966 to September 1969 and transferred power to a democratically elected civilian government headed by Dr. Kofi Busia. This government adopted the Western (Westminster) system of government. It pursued the "laissez-faire economic" programs. Nonetheless, it was unable to solve the country's economic problems and this culminated in deep dissatisfaction among the people. This caused the overthrow of Busia's government in another military coup d'etat in January 1972.

The next military government - the National Redemption Council later to be known as the Supreme Military Council - was headed by Lieutenant Colonel Ignatius Kutu Acheampong. He proposed economic resuscitation through a policy of self-reliance, devaluation of the nation's currency and import controls. In the initial years of his economic measures, the government succeeded in easing the tension on the country's balance-of-payments but from 1975 onwards the economic problems of the previous governments resurfaced. The government was then pressurized to hand over power to an elected civilian government which they did in 1979. The third civilian government was an executive presidential system of government (similar to the American type) and led by Dr. Hilla Limann. For the two years he was in office, the state of the country's economy reached an unparalleled crisis. There were also practices of corruption and nepotism among high government officials. These conditions were rife enough to lead to another change in government. On 31<sup>st</sup> December 1981, the military toppled Limann's regime, paving the way for the third military rule under the leadership of Flight Lieutenant Jerry John Rawlings.

Rawlings introduced a new form of political system in which political power would be in the hands of ordinary people by involving them in decision-making at all levels. In December 1992, the country went to the polls again and elected J.J.Rawlings as the next civilian president after he had resigned from the military. At the moment, the country is operating a multi-party system of government along the lines of the American political system.

#### **2.3.** The Economy

Ghana's economy can be divided into two categories, viz., the small capital intensive modern sector which involves mining and industrial activities, and the large agricultural and traditional sector which has yet to undergo any major modern transformation.

The main export earnings are from cocoa, gold, timber, aluminium, diamonds and bauxite. The recipient countries are the U.S.A., the U.K., Japan, Germany and the former Soviet Union. The major imports are machinery, equipment, petroleum, food and live animals and industrial raw materials. The principal suppliers are the U.K., Nigeria, the U.S.A., Germany, and Japan.

The country's labour force distribution is presented in Table 2.1 below. The table shows that in 1970, 77.1% of the male population were employed, 59.3% of whom were engaged in agricultural activities. Of the female population, 61.1% were employed, 54.6% of whom were also in agricultural activities. The unemployed comprised about 6.4% of male and 2.4% of female populations. Homemakers constituted 13.8% of the population, 1.0% of males and as many as 26.1% of females.

### Table 2.1

Percentage Distribution of the Population Aged 15 Years and above By Sex and Type of

Economic activity	Both Sexes	Male	Female
Employed, total	69.0	77.1	61.1
(In agriculture)	(57.2)	(59.3)	(54.6)
Unemployed	4.3	6.4	2.4
Homemaker	13.8	1.0	26.1
Other	12.9	15.5	10.4
Total	100.0	100.0	100.0

Economic Activity - 1970

Source: 1970 Population Census of Ghana

Regarding both production and scale of employment therefore, the agricultural sector constitutes the mainstay of the country's economy (Central Bureau of Statistics 1983: 11).

#### 2.4. Administrative Units

The country is administered through the regional and district units. There are 9 regions and 65 districts in all. Each region comprises a number of districts (the number varies for each). The regions are Western, Central, Greater Accra, Eastern, Volta, Ashanti, Brong-Ahafo, Northern and Upper. They are headed by political appointees and their main function is to plan and co-ordinate the development programmes of the constituent districts. The districts are the basic units of the government headed by career administrative officers.

#### 2.5. Ethnic Composition

Table 2.2

Population by Nationality and Race - 1970

	Population	Ghanaian	Non Ghanaian	Non African	
Number	8,559,313	7,997,181	547,149	14,983	
Percentage	100.0	93.4	6.4	0.2	

Source: Central Bureau of Statistics (1983) Ghana Fertility Survey vol.1,pg.6.

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Table	Ζ.	Э

Ethnic group	Percentage
Akan-Twi	28.3
Fante	11.3
Other Akan	4.6
Ga-Adangbe	8.3
Ewe	13.0
Guan	3.7
Mole-Dagbani	16.0
Grussi	2.2
Gurma	3.5
Other	9.1
Total	100.0

Percentage Distribution of Major Ethnic Groups - 1970

Source: Central Bureau of Statistics (1983) Ghana Fertility Survey vol.1,pg.6

About 93.4% of the population are indigenous Ghanaians and 99.8% of the population is indigenous African in origin (see Table 2.2).

Seven major ethnic groups are identified based on major language groups, common historical origin or fusion and/or similarities of culture (see Table 2.3). The largest ethnic groups are the Akans (44.2%) found mainly in Western, Central, Ashanti,

Brong-Ahafo and Eastern regions of the country. The Mole-Dagbani (16.0%) are the next largest ethnic group and they are predominately found in Northern and Upper regions. The Ewes (13.0%) are found in the Volta region. The Ga-adangbe

comprising 8.3% of the population are based in the Greater Accra and the Eastern regions. The Guans (3.7%) are scattered over Western, Central, Eastern, Northern and Upper regions, while the Gurmas (3.5%) and the Grussis (2.2%) are also based in the Northern and Upper regions. There are other smaller ethnic groups making 9.1% of the population that could not be classified under any major group and these are scattered throughout the country.

#### 2.6. Religion

Religions in Ghana can be classified into three groups: Islam, Christianity and indigenous traditional religions. Islam was the first foreign religion to gain a foothold in the country in the 15<sup>th</sup> century. It was followed by Christianity in which European missionaries played a major part. Its advent dates as far back as the end of the 15<sup>th</sup> century.

The indigenous traditional religions comprise different religious beliefs and practices. They view the whole universe as a hierarchy of numerous spirits. At the pinnacle is the Supreme Being. Next in the hierarchy are major deities which are symbolized by natural objects (which they are believed to inhabit) such as rivers, lakes, hills, rocks, trees, etc. These are believed to be offspring of the Supreme Being. Below these deities are lesser spirits which are also worshipped through their human priests and priestesses in their shrines. There are also the spirits of ancestors who serve as a medium through which believers can communicate with higher deities and with the Supreme Being. In fact, the spirits of the ancestors are believed to be interested in the well being of their descendants.

Statistics show that Christians comprise about 52.7% of the population, Muslims 13.9%, traditional religious believers 21.6% and non-believers 11.8% (Central Bureau of Statistics, 1983: 6).

### 2.7. Population: Size, Distribution and Composition

According to the Central Bureau of Statistics (1983: 3), the population growth rate is estimated at 3.0% per annum. In 1960 the population was 6.7 million; in 1970 it was 8.5 million; in 1985 it was estimated at 12.7 million; and in 1988 it was 13 million. The 1990 estimate is a little over 14.5 million. This trend shows a continuing increase in the population which is attributed to a constant high fertility rate and a decline in mortality rate. In 1960 it was estimated that 23% of the population lived in urban<sup>5</sup> areas; and in 1970, the figure jumped to 29%.

The sex ratio was 102.2 in 1960. It decreased to 98.5 in 1970 due to the expulsion of a large number of illegal residents (mainly males) from the country. The sex ratio of the Ghanaian born population according to the Central Bureau of Statistics's (1983) estimation was 97.2 in 1960 and 96.8 in 1970.

<sup>&</sup>lt;sup>5</sup>An urban area is a locality or settlement with a population of 5,000 or more (Central Bureau of Statistics, 1983: 3).

Ghana has a young population. In 1960, the proportion that was aged less than 15 years was 44.5% and in 1970 it was 46.9%. The proportion aged 65 years or over was 3.2% in 1960 and 3.6% in 1970. This means that Ghana had a dependency population of 47.7% in 1960 and 50.5% in 1970. The labour force group, i.e., the proportion aged between 15 and 65 years constituted 52.3% of the population in 1960 and 49.5% in 1970.

### 2.8. Lineage System

Kinship in Ghanaian society is an important organizational principle; it has long formed the basis for corporate control of resources by lineages, although participation in market economy has undermined kin-based corporate control. Kinship is essentially a cultural principle as well as social mechanism (Keesing, 1975: 11) and, as Schneider (1972) has observed, it should be seen as a cultural and symbolic construct that is independent of biological roots. Schneider notes also that different cultures conceptualize kinship differently. Therefore, it will be a distortion to analyze kinship categories with a universal approach.

According to Keesing (1975: 13), the universal conception of kinship is that it is viewed as natural and inalienable, and is a symbolic connection of material persons. Coitus and procreation serve as linking mechanisms. Nonetheless, in each culture there is a hierarchy of statuses. To put it otherwise, almost all cultures recognize genealogical connections between *genetrix* (the physical mother) and the *genitor* (the physical father) and the child. The connection between genitrix and the child may be conceived of

differently from the connection between genitor and the child. But in other respects, both relationships are viewed as the same, i.e., both are viewed as "necessary and complementary products of reproductive processes" (Scheffler, 1974: 750). Scheffler explains that the different components of the social status of "fatherhood" can be detached from the biological and assigned to different people in some circumstances, e.g., people other than genitrix and genitor may provide nurture, shelter and socialization of the child. These "social fathers" and "social mothers" perform their duties as established by moral, legal and behavioural "validation and not genealogical connection" (Keesing, 1975: 13). "Kinship then is a network of relationships created by genealogical connections, and by social ties modelled on the natural relations of genealogical parenthood" (Keesing, 1975: 13).

Where kinship provides local economic and political organization, the lineage often forms a corporate group, i.e., "a group of people who together act with symbolic solidarity" (Keesing, 1975: 17). Each corporate group constitutes a social category. The social category "tribal society" is defined not with reference to a living person but with reference to an ancestor. This means that membership in such a social category is determined by the people who descended from an ancestor. In determining descent, there are three main ways in which parent-child links between ancestors and descendants are recognized. These are:

1. patrilineal (or agnatic) descent, from an ancestor down through a series of male links (i.e., through the ancestor's son, his son's son, his son's son's son, etc.);

2. matrilineal (or uterine) descent, from an ancestor down through a series of female links (through daughter, daughter's daughter, etc.)<sup>6</sup>; and

3. cognatic descent, from an ancestor or ancestors through a series of links that can be male or female, or any combination of the two.

Among the functions of a corporate descent group is that it provides adaptive solutions to problems relating to rights over property and other resources across generations in different social ambience. Also, to achieve alliance and genetic mixing of descent groups, the a rule of exogamy is instituted which prohibits marriage within one's own corporate group or lineage (Keesing, 1975: 19). Marriage in Ghana is not a union between individuals but it is a contract between families or lineage groups. It entails the transfer of one lineage member to another lineage. Usually, it is the wife who is transferred from her descent group to live with her husband's group. Hence, the descent group that loses its member also loses its rights to the offspring of the marriage. As Keesing (1975: 43) has noted, such a transfer implies "a transfer of rights, of work services, reproductive powers, etc." Because marriage in the African context is a contract, such a transfer or loss is balanced by symbolic and material compensation, usually known as bride-wealth, from the husband's group to the wife's group.

Since marriage is a contract between kin groups, the custom of polygyny exists and becomes an intelligible mechanism that maintains the contract and kin groups' rights.

<sup>&</sup>lt;sup>6</sup>Patrilineal and matrilineal descent systems are also described as unilineal because each traces a chain of descendants through one sex. (Keesing, 1975: 17).

For instance, the levirate (where upon the death of a husband his brother is expected to marry the widow) is a mechanism that aims at maintaining the corporate group's rights (especially to future children) and thus maintaining the contract (Keesing, 1975: 43). But the practice of levirate is now obsolete.

However, these organized kin groups are susceptible to economic change. Since the advent of capitalist economic organization, social individualism as well as western education and values, a considerable change has occurred in the character of these kin relationships which has led to a decline in the importance of these descent groups (Schneider & Gough, 1962: 640ff.; Okali, 1983: 4ff.). The root cause of changes in kin groups, according to Schneider and Gough (1962), is the involvement of the tribal society, by colonial powers, in the capitalist market system in which human labour and natural resources, hitherto owned by descent groups, are now privatised and become marketable. The introduction of money economy compelled a large number of workers to abandon their subsistence economy and to seek wage-earning jobs in the capitalist sector. The result is a mass rural-urban migration of the country's labour force to the urban areas, thus dichotomizing the country into rural and urban in terms of place of residence. Consequently, the traditional socio-economic system has been affected. New social structures, (e.g., the nucleation of the family), tend to evolve and the process of urbanization set in motion (Stavenhagen, 1975: 223-224). Urbanization, according to Stavenhagen, 1975: 58), is the direct consequence of colonial and dependent capitalism.

To conclude, it appears that the traditional subsistence economy, which was operated by descent (corporate) groups, began to disintegrate due to the introduction of and requirements imposed by western capitalist economies, (i.e., the need for a labour force to supply this economy) (Stavenhagen, 1975: 91). However, the results are not completely devastating for the descent groups and they have managed to retain some of their traditional characteristics.

#### 2.9. Marriage System

Marriage in Africa has been documented by Radcliffe-Brown and Forde (1987) who view it as essentially a rearrangement of the social structure. By social structure is meant "any arrangement of persons in institutionalized relationships" (Radcliffe-Brown & Forde, 1987: 43). Marriage results in the alteration of certain existing relationships. For instance, a new relationship is created between the wife and husband's relatives.

Unlike marriage in the Anglo-Saxon tradition, which is considered to be an event concerning primarily the man and woman, marriage in Ghana is a contract between two kin groups (i.e. kin of the bride and the groom). Also, unlike English marriage, where the state sanctions the union and can also dissolve it, Ghanaian marriage does not concern the state or particular government authority. It is rather the interested kin groups who see to the consummation of the union as well as to its divorce. Most often they make every effort to see the union materialize. The offspring of the union are kin to both parents' kin-groups.

Ghanaians distinguish, just as the English do, between "legal" and irregular marriage. In present day England, according to Radcliffe-Brown and Forde (1987), a marriage is legal only if it is sanctioned by a government authority, usually by registering

the marriage with a licensed official of the state. Children born of such a union are deemed legitimate. But in Ghana the "legality" does not necessarily involve a state representative (or a "licensed authority"). The "legality" requires that marriage formalities be fulfilled involving kin-groups of both the bride and the groom. Only children that are born from such an arrangement are deemed to be legitimate. In Ghana the payment of bride-wealth by the husband's kin to the bride's kin is an essential aspect of such a "legal" or legitimate marriage (Radcliffe-Brown & Forde, 1987: 46).

To understand Ghanaian marriage, it is important to view it as a process rather than an event. Usually, it begins with a period of wooing and formal betrothal which is like a contract between the families of the spouses. Then follows the marriage ceremony (an occasion for celebration). The most important stage in marriage is when the couple have their first child because it is through children that marriage becomes meaningful and both families are united by having common descendants. The couples' inability to have children will create problems in the marital relations which may even culminate in a divorce or polygyny if the bride is found to be infertile.

It is very important to understand that in Ghana people marry because they want to have children. The motivation for childbearing is the value of children which refers to the functions and needs children serve for parents and families. These benefits include household assistance, and old-age security: a guarantee of financial and material support to parents from offspring. Children also provide political status within the community; they provide social status because of approval, prestige and deference accorded to marriage and parenthood, and finally, psychic satisfaction is obtained through the companionship and love of children (Hollerbach, 1983: 349). These reasons are to be understood in the context of a pronatalist society whose culture despises infertility.

The most important "value" of a woman in the Ghanaian culture is her childbearing capacity (Radcliffe-Brown & Forde, 1987: 51). Therefore, when a wife proves incapable of child-bearing, the two possible solutions that are considered are: either the husband seeks a divorce or he marries a second wife thus becoming polygynous.

#### 2.10. Polygyny in Ghana

Polygyny is a recognized custom in Ghana which carries both social approbation and religious sanctions (Amoo, 1946: 228). The motives of polygyny have been advanced as follows:

(a) The desire to have numerous posterity (or large household).

(b) A man who has many wives and children is considered rich and successful (Amoo, 1946: 228), and the number of wives a man has depends on his wealth and desires. It should, however, be noted that although polygyny is an ideal, it is in fact restricted to those who have enough money. In urban areas, it is practised by those who earn high incomes (Amoo, 1946: 236). Polygyny therefore, is a status symbol, and chiefs (or traditional rulers) are obliged to have "large harems" of co-wives (Fortes, 1950: 281).

(c) Prolonged absence of a wife from the household. In Ghana, custom requires a wife to visit her relatives (in her original household) regularly, especially during occasions such as funerals and festivals. Sometimes such visits extend over weeks and
even months so that she ends up spending more time with her family of orientation than with her family of procreation. Such absences are causes of complaint by the husband. Moreover, during her absence, a husband is compelled to perform certain household chores that are considered female tasks (in the Ghanaian culture) e.g. cooking, fetching water and firewood. In the African context, these tasks are "incompatible with male dignity" (Clignet, 1970: 30). In order to provide for the missing services, an African husband would prefer to have an additional wife (provided he can afford it) (Amoo, 1946: 229).

(d) Infertility of a first wife makes it necessary and even proper for a husband to marry an additional wife.

In a polygynous family or what Fortes (1949: 49) calls the "multicellular family" the senior wife enjoys more authority and more esteem in the public than the junior cowives. Usually before a man marries another wife he has to, out of courtesy, seek the consent of the senior (or the first) wife (Rattray, 1927: 95). Another reason is that, because he is, in fact, asking her to share her sexual rights with another woman, her permission should be sought (Fortes, 1950: 280). Sometimes a gift of cloth, money or gold has to be given to the first wife as a compensation for having her share her sexual right with another or others. If a man has two or more wives and wants to take another one, he has to satisfy all the antecedent co-wives before marrying another (Rattray, 1927: 95; Fortes, 1950: 280; Ffoulkes, 1908: 40).

It is notorious for co-wives to show great jealousy towards one another leading to petty quarrels among themselves. In some situations, husbands try to forestall this problem by keeping their wives in separate residences. However, husbands are expected to share their time, sexual attention, and material items equally among their wives (Fortes, 1950: 281).

Rattray also notes that polygyny is not as common as it was believed to be because the practice is severely restricted by economic and biological factors. Moreover, sexual reasons are not the prime motives for polygyny. The motives are religious, social, and economic rather than sexual (Rattray, 1927: 95).

The hypothesis that polygyny depresses fertility has been verified by various researchers, some of which are reviewed in the next chapter.

#### CHAPTER THREE

## **REVIEW OF THE LITERATURE**

The aim of this review is to ascertain the state of empirical knowledge about the subject under study in order to (a) identify areas where past researchers have agreed or disagreed, (b) identify variables that past researchers considered as important and are relevant to this study, (c) take a lesson from how past researchers have measured variables and analyzed data, (d) identify drawbacks (if any) in their measurements, and (e) take a lesson from how they have linked theory with method.

The review is divided into two broad sub-sections, viz.,(a) studies that conclude that polygyny does not depress fertility, i.e., either fertility is higher for polygyny than monogamy, or no significant difference is observed in the fertility of monogamy and polygyny; and (b) studies that conclude that polygyny depresses fertility, i.e., fertility is found to be higher for monogamy than for polygyny.

### **3.1.** Studies That Contradict the Polygyny-Fertility Hypothesis

Past studies that conclude that polygyny does not depress fertility include: Busia (1954), Pool (1968), Ohadike (1968), Olusanya (1971), Ahmad (1968), Adewuyi (1988) and Pebley & Mbugua (1989). The earliest study of the relationship between polygyny and fertility in Ghana (Busia, 1954) revealed that the incidence of polygyny was about the same in both urban and rural areas. This was because at that time life in both rural and urban areas was not marriage type selective. In both places of residence polygyny was practised by those who could afford and maintain more than one wife, or those, who

because of their occupation (e.g. farming, trading or laundry), found polygyny advantageous. Busia did not present any data to show the effect of polygyny on fertility nor did he reveal the method of analysis (fertility indices) used in his study. However, he did conclude that no significant difference was found between the fertility of women in monogamous unions and women in polygynous unions.

Polygyny was a widespread practice in rural Ghana. By 1968, about 45% of the then current marriages in rural areas were polygynous (Pool, 1968: 247). The opposite was true for women in urban areas who were rather concentrated in monogamous marriages. According to Pool (1968), this rural-urban discrepancy may be due to the practice of rural widow remarriage. The proportion of women in polygynous marriages is higher in the rural areas than in the urban areas for all ethnic groups.

As regards polygyny and fertility, Pool's data did not show any evidence of the influence of polygyny on fertility except for age-group 45-49. The data did not show any significant variation in fertility of monogamous and polygynous women. However, Pool has pointed out that since these are cumulative rates, it is likely that previous factors might have biased the results, i.e., some women may have previously been in monogamous marriages, especially the "elderly remarried widows" (Pool, 1968: 249).

From a sample of 596 married women of all social groups in Lagos (Nigeria) Ohadike (1968) generated data which show a "noticeable" incidence of polygyny there. The prevalence of polygyny suggests that this form of marriage "is an expression of a way of life which is deeply embedded in their religious and cultural obligation" (Ohadike, 1968: 360). He found polygyny to be present in all social groups. Social status measured by the quality of residence, education, and occupation correlates negatively with polygyny. Education was the most effective single factor accounting for monogamy. This suggests a further decline in polygyny for the future. Religion also influences polygyny, for example, the rate of polygyny is higher for Moslems  $(47.2\%)^7$  and traditional worshippers (37.5%), followed by Protestants (23.3%) and Catholics (17.3%). There is a positive correlation between polygyny on one hand, and age and marriage duration on the other, meaning that "older and longer married respondents" are more likely to be married into polygynous households (Ohadike, 1968: 382).

On marriage type and fertility, significant differences were observed between the fertility levels of women married to monogamists and women married to polygynists. The levels are higher for women in polygynous unions. Women in monogamous and polygynous unions in the age 15-34 category record 2.7 and 3.3 mean births respectively; women in monogamous and polygynous unions in age 35+ category record 6.1 for each type of union. The mean total births for monogamous and polygynous marriages are 3.9 and 4.2 respectively. Age at marriage, education, maternal age, and marriage duration are found to bear the most significant association with fertility (Ohadike, 1968: 391).

Ohadike differentiates between reproductive age (a biological fact) and marital age (a social fact), and shows also where they are related. Reproductive age is attained immediately after physical maturity, meaning that the individual is physiologically

<sup>7</sup>Figures are percentages of total marriages in each category (Ohadike, 1968:381).

capable of reproducing. The average menarchial<sup>8</sup> age for a Nigerian girl, according to Ohadike, is around 14 years. In another study (Tanner et al., 1962: 188) it was found to be between 11.2 and 17.0 years.

Ohadike explains that, in Nigeria, getting married is not only a physiological matter but is contingent on other social factors. This is why age at marriage for men in Lagos seems to be high - 28.1 years compared with 19.8 years for women. This shows that men marry later and "the discrepancy in the mean age difference" could allow for the practice of polygyny due to the apparent excess of marriageable women. The reasons for later age at marriage for men are probably the difficulty for the men to acquire enough wealth to meet marriage requirements (expenses), and other customary demands such as higher expectation of living standards and greater economic security to be able to look after the family (Ohadike, 1968: 382).

But Ohadike's data have also indicated that, on the whole, women respondents (of all social levels) thought that the ideal age at marriage for women should be higher (than their actual age at marriage) to enable them to be socially, economically and educationally prepared for married life. This, Ohadike believes, indicates a narrowing of spousal age difference especially with increasing education of more and more women (Ohadike, 1968: 382).

The attitudes of Lagos women toward polygyny have also been noted. About one third of women (including those in monogamous marriages) approved of polygyny

<sup>&</sup>lt;sup>8</sup>Menarche is "the beginning of female reproductive, or childbearing period, signalled by first menstrual flow" (Yaukey, 1985: 336).

because of the following reasons: to provide social, domestic, and economic assistance in the household; to increase family size; to make sure the husband gets children should the first wife be barren; to prevent prostitution by increasing the chances of women to get married; and lastly, it is a customary practice and approved by religion (Islam). About two thirds of all women are not in favour of polygyny. Ohadike has also observed that polygyny correlates "positively with age and negatively with education" (Ohadike, 1968: 382).

Even though polygyny has its roots in tradition which dies hard, Ohadike has noticed ample evidence to suggest that it will decline in the near future with continuing social change. For example, Christianity has had a negative influence on it but failed to ban it altogether. Additionally, there is a noticeable decrease in the practice due to the influence of western education (Ohadike, 1968: 380).

Olusanya (1971) also presented data on fertility and polygyny among a sample of currently married Yoruba women in two towns (Oyo and Ife) and five rural communities, all in Western Nigeria. Only women with at least one birth were included in the analysis in order to remove the effect of sterility. Also the women were arranged according to the year of first marriage thus controlling for marital duration across marriage type. Fertility of the women was measured by average number of live births per woman for each town or settlement.

A simple count of the number of live births to all polygynously and monogamously married women showed that, on the average, the women in polygynous unions were more fertile than women in monogamous unions (Olusanya, 1971). He attributes this difference to marriage duration which is longer for women in polygynous marriages. When marriage duration was held constant, the difference seemed to disappear.

One of the factors believed to be responsible for influencing fertility level is the frequency of sexual intercourse between a man and his wife or wives. This observation was also made by Lorimer (1954: 98) who suggested that "a moderate dispersion of the husband's sexual acts would likely cause some reduction of the fertility of married women", and that "the effects of favouritism and avoidance could be even greater."

However, Olusanya (1971) doubts the importance of the coital frequency factor. Though he acknowledges the fact that an extremely low coital frequency will reduce fertility, he argues that a polygynously married woman can still have a large number of children if the longer duration of marriage observed among polygynists is taken into consideration.

One important aspect of Yoruba polygyny mentioned by Olusanya is that, in the Nigerian context, polygyny means keen competition among co-wives for children. A wife with many children, more so with a son, is accorded a special status in the Yoruba society. He suggests that this norm may have an effect of raising the fertility of polygynous women above that of monogamous ones.

Olusanya (1971) believes that a study of the polygyny-fertility relationship should aim at certain hidden factors (eg. infertility, marital instability, differences in marital duration, and adherence to fertility-restricting customs and practices) that act through polygyny to affect fertility, rather than to type of marriage. By this Olusanya is suggesting that a study of marriage type and fertility should take into consideration proximate determinants of fertility. He believes that this approach will be a more elaborate description of the subject rather than "merely stating that polygyny lowers fertility through reduced coital frequency...." (Olusanya, 1971: 176). This suggestion bears relevance to the present study and will be considered as a point of reference in the methodological issues.

One of the reasons for polygyny in Africa has been said to be status. For most men, having an additional wife may have priority over many other things (Ahmad, 1986: 63). Due to the prestige attached to it many of the women support it. In a polygynous marriage, each wife is a senior to all successive co-wives, and a junior co-wife is expected to accord to each senior co-wife the due respect.

Ahmad's (1986) study of polygynously married Yoruba women of Western Nigeria has also revealed that religion, education, and occupation of women's parents exert strong influence on the type of marriage women enter. Moslems have the highest proportion of their women in plural marriages; higher educated women are less likely to be married to a polygynist; and the higher the occupational levels of a woman's parents, the less likely she will be married to a polygynist.

Ahmad's data also show that the number of children a man has increases positively with number of wives. Thus the mean number of children for a monogamous husband is 3.8; for those with two wives is 7.3; for those with three wives is 11.4; and for those having four or more wives it is 14.9 (Ahmad, 1986: 64).

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The differentials in fertility levels between wives in monogamous and polygynous unions are also investigated using mean number of children ever born to women as an index of fertility. The reported mean number of children ever born to wives in polygynous marriages is higher than that of wives in monogamy. When the data were standardized for difference in age, the difference in fertility levels seems to narrow. When other socio-economic factors such as occupation, education, religion, and father's occupation were also taken into account, the difference seems to disappear. This led Ahmad (1986) to conclude that "the number of wives of the husbands does not significantly affect the fertility level of women when other factors are taken into account" (Ahmad, 1986: 71). This means that, other factors aside from type of union may influence fertility level of a woman making its analysis complicated (Ahmad, 1986: 64). In sum, the study did not reveal any variation in the fertility of women in polygyny and monogamy in Western Nigeria.

Adewuyi (1988) has also re-examined the question of whether polygyny depresses fertility or not using data from the Nigerian Fertility Survey of 1981-82. The fertility indices utilized by him are cumulative fertility, i.e., mean completed fertility and current fertility, i.e., number of children born in the 5 years prior to the generation of the Nigerian data. The first indicator is suitable as a measure of fertility because it may reveal differences in reproductive behaviour of young women as well as older ones. The second indicator reflects current or periodic fertility behaviour especially in a transitional society such as Nigeria where there have been changes in terms of conformity to taboos and rules that were formerly influenced by the value and demand for children (Adewuyi, 1988: 393-94).

The overall results show that the fertility of women in polygynous unions are significantly higher than that of women in monogamous unions except for women in age-group 30-39. When the data are controlled for age-groups, the age-specific fertility rate revealed an opposite picture, except for women under 20 and over 40 years. The age-specific fertility rate is higher for women in monogamous unions than for women in polygynous unions. Taking into account marital duration, women in polygynous marriages except for women in age 25-44 group who have been married for between 10 and 19 years. A similar impression is given when the data are considered according to the regions of the country, viz., north-east, north-west, south-east, and south-west.

Adewuyi concludes that the overall impression is that there is a consistently higher fertility among women in polygynous households than among women in monogamous households.

In their study of the association between polygyny and fertility in six African countries viz: Cameroon, Ghana, the Ivory Coast, Kenya, Lesotho, and Senegal, Pebley and Mbugua (1989) divided their study population into two groups: the first group comprised women who were in monogamous marriages, which later on became polygynous. The second group comprised women who first got married to polygynists. This means that in the first group the women were senior co-wives, and in the second group the women were junior co-wives. It is believed that the association between

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polygyny and fertility will be different for the two groups. Ghana was excluded from this observation because no information was gathered on wife's rank. Its sample was only divided into monogamous and polygynous sections without wife-rank.

The measure of fertility employed by Pebley and Mbugua (1989: 342) is total marital fertility rate three years prior to the generation of the data. The total marital fertility rate for all women in polygynous marriages exceeds that of women in monogamous marriages for all the countries under study. When wives in polygynous marriages were divided according to rank, the fertility rate was lower for first wives than for junior co-wives only in Kenya and Lesotho. The differences in fertility of senior and junior co-wives in Cameroon and Ivory Coast are rather too small to be significant. In Senegal, the picture is different; senior co-wives have higher fertility than junior cowives.

According to Pebley and Mbugua (1979: 343), the mechanisms responsible for these differences in fertility are fecundity<sup>9</sup>, coital frequency, the length of postpartum abstinence period, fetal loss, and contraceptive use. These factors are identified as the proximate determinants of fertility. Using fecundity as an example, they explained that female differences in fecundity affect fertility by marriage type because of the selection of sterile women by polygynous marriage which occurs in two ways: (1) a sterile wife in monogamous marriage is a factor in compelling the husband to divorce her or marry another wife; (2) when a sterile woman is divorced she is more likely to remarry into a

<sup>&</sup>lt;sup>9</sup>Fecundity is defined by Haupt & Kane (1991: 56) as "The physiological capacity of a woman or a man to produce a live child."

polygynous household as a second or third co-wife. Therefore, it is expected that both senior or junior co-wives may be less fertile than wives in monogamous marriages.

In order to discover how much fertility differential by marriage type is caused by sterility, the total fertility rates for both monogamous and polygynous segments were recalculated by eliminating all childless women at the beginning of the survey. The result has shown that the gap between the fertility rates of women in monogamous and polygynous marriages has narrowed for all countries except Lesotho. This means that fertility rate differentials between monogamous and polygynous marriages can partly be accounted for by sterility.

Pebley and Mbugua (1989) could not explain the influence of the factor of coital frequency on fertility of wives in their study because information on it was difficult to collect in most of the country surveys. The following variables were also considered by marriage type: wife's age, her duration in her current marriage, and her husband's age. It was discovered that wives in monogamous marriages and junior co-wives in polygynous marriages are closer in age in all countries where ranking is done for co-wives in polygynous marriages.

Senior co-wives have longer marital duration than junior co-wives and wives in monogamous marriages. The marital duration for the last two groups are similar. The explanation given for this observation is that since every monogamous marriage is potentially polygynous, it follows that many wives in monogamous marriages have relatively shorter marital duration because their marriage becomes polygynous. Also, junior co-wives are by definition, more recently married, and thus have a shorter duration of marriage than senior co-wives. "In fact, junior co-wives at any given age are more likely to have shorter marriage duration in the current marriage than wives in monogamous marriages because they are more likely to have been divorced or widowed than wives in monogamous marriages" (Pebley & Mbugua, 1989: 347). Thus longer marital duration is responsible for lower coital frequency leading to the lower fertility of senior co-wives in Kenya and Cameroon. This means that marital duration has an inverse relationship to fertility according to Pebley and Mbugua's findings.

The collection of information on age of husbands has not been very successful but, from the limited information available, the mean ages at marriage were calculated for both husband and wives holding wives' current age constant. The results reveal that the wives in monogamous and senior wives in polygynous marriages are married to husbands of similar ages. This is because both groups are married as first wives in their current marriage. On the other hand, junior co-wives are married to husbands much older than them. For Ghana, and Lesotho, where there is no ranking of co-wives, all wives in polygynous marriages are grouped together. The means show that they are married to older men.

The next factor responsible for differences in the fertility of women in monogamous and polygynous marriages in the study is difference in the postpartum practices and breastfeeding. Many observers believe that longer breastfeeding and postpartum amenorrhea<sup>10</sup> in polygynous marriages is partly responsible for lower

<sup>&</sup>lt;sup>10</sup>Postpartum amenorrhea is defined by Weeks (1986) as the "Temporary absence or suppression of the menstrual discharge following childbirth" (pages 472 and 477).

fertility of wives in that union. According to Pebley and Mbugua, the duration of breastfeeding, postpartum amenorrhea, and postpartum abstinence are generally shorter for wives in monogamous marriages, and longer for wives in polygynous marriages because polygynists have other legitimate partners, and this makes it possible for wives in polygynous marriages to observe these practices longer.

On the factor of contraceptive use in the six African countries, it has been discovered that contraceptive use is higher in monogamous marriages than in polygynous ones in most of these countries. Since contraceptive use is inversely related to fertility, Pebley and Mbugua (1989) did not use it as an explanatory variable for fertility differential by marriage type.

Even though the effect of fetal loss on fertility by marriage type could not be investigated due to the serious problem of underreporting, Pebley and Mbugua have no reason to believe that fetal loss rates could be sufficiently different by marriage type to result in fertility differentials between women in the two types of marriages.

In order to find out whether the fertility differential by marriage type can be accounted for by the intermediate variables, a significance test was conducted holding constant the intermediate variables discussed earlier on, i.e., age and marital duration. "The results show that fertility difference by marriage type, and rank are statistically significant only in the Ivory Coast, and Kenya" (Pebley & Mbugua, 1989: 353). The differences are very small for Cameroon, Lesotho, and Senegal whereas for Ghana there is no differential fertility by marriage type. The results also indicate that age and marital duration are important intermediate variables. Based upon these findings, Pebley and

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Mbugua (1989) conclude that polygyny cannot be said to universally depress fertility in Africa, at least on the individual level.

Since the relationship between fertility and marriage type is found to be statistically significant only in Kenya and the Ivory Coast, Pebley and Mbugua have ignored the other countries, and focused on the mechanisms through which marriage type can influence fertility in Kenya and the Ivory Coast.

In the case of Kenya, wives in monogamous marriages have higher fertility than both senior and junior co-wives in polygynous marriages. The reasons given are (a) longer breastfeeding and less frequent co-residence by senior co-wives with husbands and (b) junior co-wives marrying older husbands. When these propositions were hypothesized and tested, the results show strong and significant association between breastfeeding, husband's age, and possibility of conception. When the variables breastfeeding and husband's age were held constant, the association seems to disappear suggesting that these are the explanatory mechanisms through which the fertility of polygynous marriages are depressed. The third variable - co-residence of senior co-wives with husbands does not indicate any significant association with fertility.

Another possible explanation given to the lower fertility of junior co-wives in polygynous marriages is that even though they are more likely to be sexually active at any stage of their marriage than other wives, their reduced fertility may be due to the declining fecundity of their older husbands rather than reduced sexual activity.

"In the case of the Ivory Coast, only junior co-wives have significantly lower fertility than wives in monogamous marriages" (Pebley & Mbugua, 1989: 356). The mechanisms that account for this are: junior co-wives marrying older husbands, longer duration of breastfeeding, postpartum abstinence, and possibly the influence of coresidence. These hypotheses were tested and the coefficients for breastfeeding, and postpartum abstinence showed that they have a significant influence on the possibility of conception. Even though there was not adequate information regarding husband's age, it is believed that there is the possibility that older average husband's age is partly responsible for depressed fertility of junior co-wives in the Ivory Coast also (Pebley & Mbugua, 1989: 357). The variable co-residence does not show any significant association with the possibility of conception as it does in the case of Kenya. This means that coresidence cannot be used to explain lower fertility among junior co-wives in the Ivory Coast.

### **3.2. Studies That Support the Polygyny-Fertility Hypothesis**

The studies reviewed in this section have all concluded that polygyny depresses fertility.

Among the Temne of Sierra Leone in West Africa (Dorjahn, 1958: 839), deliberate celibacy is very rare due to the value of and the demand for children. It is only a few, if any, Temne adults of both sexes that live celibate lives e.g. the diseased, the physically or mentally handicapped. Children, therefore, give prestige to both parents and, in polygynous households, children solidify the status of the mother "in relation to her co-wives" (Dorjahn, 1958: 843). To have plural wives is the ultimate goal of all Temne adult males except devoted Christians and educated men. Also, as in other African societies, the Temne farmer has to work hard, and for many years, in order to accumulate sufficient wealth for bridewealth, and therefore, "the number of wives a man has is a rough index of his wealth as well as success in farming" (Dorjahn, 1958: 843). The importance of the first wife among the Temnes is that no secondary marriage is possible without the husband consulting her or seeking her approval. In fact, it is believed that "a man risks divorce if he fails to heed his first wife's refusals" (Dorjahn, 1958: 844).

According to Dorjahn (1958) "polygyny is an ideal which is not attained by all men who desire it". He has observed that there is a positive association between increasing age and polygyny; and between increasing age and large households. This is so because of the practice of levirate<sup>11</sup>, and the connection between wealth and old age since the elderly men are able to accumulate enough wealth to marry many wives.

Dorjahn has found an increase in the intensity of polygyny among the Temne:-43% of all married men are polygynously married as compared with 28% previously. Generally, the prevalence of polygyny has increased slightly in that society i.e. from 158 to 166 per 100 husbands.

The fertility of women in Temne shows that polygynously married women are less fertile than monogamously married women at any age at marriage except those who were married at age 25 years or older. Also, when the fertility of women is considered in

<sup>&</sup>lt;sup>11</sup>Levirate is a custom whereby a widow preferably marries a brother of the deceased husband (Schusky, 1972: 91).

terms of wife order it has been discovered that the fertility is still higher for monogamously married women but it decreases consistently for polygynously married women by wife order, i.e., the more wives there are in the household the lesser the mean number of children per wife.

There are four variables that Dorjahn identified as responsible for the Temne fertility differentials, viz: divorce, sterility, age difference between spouses, and abstinence practice. He warns that failure to control for these factors will make the study of the relations between polygyny and fertility difficult to interpret. He is convinced that there is a negative relationship between divorce or instability of marriage and reproduction. His data reveal that polygynously married men are more likely to have marital problems or instability, e.g., quarrels among wives leading to a wife seeking divorce. The divorce ratios computed by Dorjahn are greater for higher-order wives than for those who have spent most of their married lives in monogamy. He notes also that divorced women are those who are less fertile. Based on these observations, Dorjahn concludes that divorce rate can partly account for lower fertility in polygynously married women in Temne society.

Sterility is another of the reasons for polygyny. It follows that its incidence is higher in the polygynous segment than in the monogamous one, and this could account for the discrepancy in the fertility of the two categories of women.

Possibly because of the economic requirement (e.g., bride-wealth) of marriage in Temne society, only the older and the rich could afford secondary marriages, and because of early age at marriage for women, it happens that, women marry older men, and usually there is a large age-difference between spouses. The Temne study shows that the mean difference in age at marriage between spouses is greater for polygynous marriages than for monogamous ones. "In the former, the difference increases steadily with the higher-order wives" (Dorjahn, 1958: 855). This means that polygynists marry younger women. The influence of this age-differential is that it lowers the reproduction of the women in polygyny.

Postpartum abstinence among the Temne is "equally important for monogamous and polygynous families" (Dorjahn, 1958: 855-6). However, it is practised less in monogamous marriages than in polygynous ones. Since it has an inverse relationship with fertility, it is found to have a greater influence on the fertility of women in polygynous marriages than on the fertility of women in monogamous ones.

In Bangladesh, polygamous marriages are a function of wealth, libido, luxury (Aziz, 1979) and sterility (Shaikh et al., 1987). In their 5-year study of polygyny and fertility in rural Bangladesh, Shaikh et al. (1987: 55) have documented the finding that about 5% of all Bangladeshi marriages were polygynous. The mean age of polygynous husbands ranges from 33.8 to 36.4 years; and the mean age of wives in polygynous unions ranges from 18.6 to 20.5 years. The mean age difference between polygynists and their wives increases with increasing age at marriage of husbands, i.e., as marital age of polygynous husband increases, the age gap (difference) between husband and wife also increases. For example, husbands who married at age 25 or below are 4.2 years older than their wives; those who got married at age 35-44 are 17.9 years older than their wives;

and those husbands who got married at age 45 and above are 29.7 years older than their wives. On the whole, in Bangladesh polygynous husbands are 15.4 years older than their wives (Shaikh et al., 1987: 50-51).

In the same study, education and wealth by occupation were some of the factors varying with the incidence of polygyny. It is therefore concluded that those having modern education are more likely to refrain from polygynous marriages than the uneducated. Also there is the tendency for farmers in rural areas rather than wealthy businessmen in urban areas to marry a second wife for the purposes of domestic and farm help. This observation is consistent with Ahmad's (1986) evidence from Western Nigeria.

With regard to fertility, it was found to be lower among the polygynously married women than among the monogamously married ones irrespective of their socioeconomic statuses. This suggests that, neither education nor occupation has an effect of lowering fertility among the women in polygynous unions (Shaikh et al., 1987: 55). They use mean number of live born children (per woman) between 1975-79 as a measure of fertility (Shaikh et al. 1987: 54) They have noted also that, there is no direct relationship between polygyny and fertility at the societal level but that certain intermediate variables such as frequency of coitus, age difference between spouses etc. are the proximate determinants of fertility in rural Bangladesh.

Ukaegbu (1977: 399) has cited reasons for the prevalence of polygyny among the Ngwa Igbo of Eastern Nigeria among which are the following:-

(1) the Ngua husband desires numerous children and believes that many wives could provide those children;

(2) for prestige and to boast his ego among his peer group and his age mates - having many wives is a frequent subject of boasting;

(3) to enhance his status in the community;

(4) to provide sufficient labour for farm work and for processing the commercial oil-palm produce;

(5) to provide extra outlets for his sexual urges, even though these urges could be fulfilled through concubinage (Uchendu, 1965: 187-197).

The fertility measures used in Ukaegbu's study are (1) current fertility measured as live births to women in the 12 months prior to the study, and (2) retrospective fertility measured as number of children ever born alive to women. When the fertility of women in polygynous marriages is compared with that of women in monogamous marriages, the results show that women in monogamous unions report higher current and retrospective fertility than women in polygynous unions. "The total fertility rate of the former women is 8.5 in contrast to 5.9 for the latter women" (Ukaegbu 1977: 400) - an average deficit of 2.6 children for the polygynous marriages. This means that polygyny depresses fertility.

Ukaegbu (1977: 400) does not think that the intervening variable of marriage duration is responsible for this difference because when age and marriage duration were controlled for in both types of marriages there is evidence to show that differential fertility sets in as soon as women get married in each type of marriage, and increases directly with marriage duration in both types of marriages. The observed differential fertility between the marriage types is rather found to be due mainly to the influence of a wide variation in ages of the polygynists and their wives. This is so because polygynists of Eastern Nigeria are usually older men approaching their late fifties and sixties whose reproductive capabilities are at a low ebb. In contrast, monogamists are found in various age groups (Ukaegbu, 1977: 402). The institution of polygyny is however, seen to be fast declining in that society due to the influence of education, and the Christian religion, but it is still common among the old and the illiterate (Ukaegbu, 1977: 403).

Garenne and van de Walle (1989) also studied polygyny and fertility among the Serer of Senegal in West Africa. They make an important observation which relates to societies in high fertility zones. Natural fertility<sup>12</sup> is still on the increase in tropical Africa, and little or no attempt is being made by married couples to limit family size, except those resident in urban areas. Contraception and abstinence, where they are practised are meant for spacing rather than for limiting number of births. This kind of fertility behaviour, plural marriages, and the corresponding high fertility they are believed to promote generate a great interest for demographers (Garenne & van de Walle, 1989: 267).

Garenne and van de Walle's measure of fertility is cumulated fertility of women continuously in polygynous and monogamous marriages. The fertility of women in

<sup>&</sup>lt;sup>12</sup>Natural fertility is defined by Henry (1953) as the "fertility of a human population that makes no deliberate effort to limit births." Natural fertility is another term for uncontrolled fertility.

polygynous unions was found to be 7.6% lower than that of women in monogamous unions with the level of the former decreasing with each additional wife.

The findings of their study show a higher fertility for wives in monogamous marriages than for wives in polygynous marriages. The fertility of polygynous wives is indirectly related to their ranks in the plural union. This means that as a wife's position in the rank order of wives increases (in the marriage) with each additional wife, her fertility decreases. In other words, a wife's fertility decreases as she gets seniority in the marriage.

Garenne and van de Walle (1989) also identified two factors responsible for fertility differentials among the Serer. The first factor is less time spent by wives with polygynous husbands because their husbands have to pay equal attention to other wives. The other is the age difference between the husband and his wives. Usually, as mentioned earlier on, polygyny is practised by men 50 years old and over, who show lower fecundity and lower coital frequency. According to Garenne and van de Walle (1989), these two factors seem to have a significant impact on the fertility of their wives.

The lessons gathered from the foregoing review of the literature are basically twofold. Firstly, past researchers did not loose sight of the socio-economic characteristics of their sample. They have all attempted to describe the background characteristics of the women involved in both types of marriages for comparative purposes. Secondly, since marriage type does not directly relate to fertility, the studies have related their independent variables to dependent variables via some intermediaries which are usually demographic factors, otherwise known as proximate variables. Of those variables in the literature, the most important are age at marriage, maternal age, marital duration, and differential age between spouses. Usually these so-called intermediate variables are differently selected by different researchers and are treated as controlled variables. A note of warning that will not be ignored by this study, comes from Olusanya (1971) and Dorjahn (1958). That is, failure to control for demographic variables can render a study of marriage type and fertility difficult to interpret.

So far, the state of our understanding of the relationship between type of marital union and fertility is inconclusive. Studies that have come up with differential fertility by marriage type have attributed the difference to certain mechanisms among which are the demographic variables mentioned above. The question also arises regarding the adequacy or limitations of theory and methods employed in previous studies to relate marriage type to fertility. On this issue, the reader should recall the methodological problems mentioned earlier in the introduction. This issue is important for the selection of an appropriate methodological and theoretical approach for the current study.

The current work is orientated by the functional and demographic perspectives of Hillman (1975) and Davis and Blake (1956) respectively. The salient and relevant tenets of their works are brought into focus in chapter four.

#### **CHAPTER FOUR**

# THEORETICAL FRAMEWORK

Hillman's (1975) functional approach to the social systems of African societies and Davis and Blake's (1956) analytic framework for the study of fertility seem to provide an adequate context in which this work will be embedded. The intention is not to verify the assumptions of these frameworks but to utilize the insights of these respected theories concerning social structure and fertility. Specifically, these theories will provide a frame of reference by which the relationship between social institutions, demographic factors, and fertility will be analyzed. The first section of the chapter discusses Hillman's (1975) social function of polygyny.

## 4.1. Hillman's Social Function of Polygyny

In a study of family, the concept of "function" may refer to "the contribution that an activity makes to the whole system, e.g., the reproductive function of the family results in the replacement of members of the society" (McIntyre, 1966: 61). The results of the same activity may be different for the individual, the society, or for some subsection of the society. The family consequently may be regarded as one of the many subsystems in the society. Social behaviour can, therefore, be interpreted in terms of its contribution to the maintenance of the society.

Hillman (1975: 109) quotes T.S. Elliot to say that the building blocks of human existence are "birth and copulation, and death."<sup>13</sup> All social and cultural systems rest

<sup>&</sup>lt;sup>13</sup>This quote was taken from <u>The Four Quartets</u> of T.S.Elliot.

on these three facts of life. These three biological facts have been translated into social bonds out of which human beings have forged structures necessary for their survival and the perpetuation of their societies. One writer (Fox, 1967) has noted that people do not toy with these facts of life for mere pleasure but they utilize them to their advantage to ensure survival and beyond it, as well as, for prosperity. In certain situations, they are compelled to choose "one mode of adaptation" instead of another but they are at liberty to manoeuvre this choice to their advantage.

Hillman (1975: 110) notes that every social system is a reflection of its historical response to human problems, and these constitute different solutions that are peculiar to the system. It should also be noted that no two systems of social organization are ever the same nor are human solutions ever perfect. "The various patterns of social behaviour, adopted by different people, do not generally represent better or worse systems: not higher or lower ways of life" (Hillman, 1975: 110); they simply represent different ways of doing things with the aim of human survival, making life "possible and bearable" (Hillman, 1875: 110). Thus the different family and marriage institutions which exist should be viewed "as valid to the extent that, within their cultural context, they serve to promote and actualize the ideal of humanity in general" (Snoek, 1970: 116).

In order to handle the implications of the three basic facts of human existence mentioned earlier on, every society has "devised and constructed" a complex set of social institutions with their corresponding network of interrelationships. For example, the outcome of mating is children. Mating therefore, requires certain rights and obligations, e.g., children must be protected, raised or socialized and integrated into the society.

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Similarly, there are provisions made in order to fill the gaps that may be left by death, e.g., levirate and sororal polygyny or rules of inheritance. All these social provisions are geared toward ensuring the continuity of the society.

Hillman (1975) again notes that social structures are necessary for human existence. The conjugal family is regarded as the basic unit of all societies of the human race. This means that the institution is almost universal; but conjugal family types and their implications vary. Therefore, a particular people's historical and cultural conceptions as well as their perception of family life will determine their social relationships and attitudes. It is marriage that "establishes firm human relationships of affinity<sup>14</sup>...Mating produces relationships of consanguinity<sup>15</sup>" (Hillman, 1975: 111). The multiplicity of these relationships produces families, clans, tribes and "these relationships constitute a kinship system: groups related by real, putative or fictive consanguinity" (Fox, 1967: 33).

Kinship systems are of prime importance in Africa because of the needs they answer (Hillman, 1975: 111). The kinship system provides the answer for biological, psychological, ecological and social problems. In summary, kinship and marriage systems in Africa provide a set of social arrangements and interrelationships that allows people to live cooperatively and in harmony, and to pursue orderly social life. "Kinship and

<sup>&</sup>lt;sup>14</sup>Affinal relatives are those relatives connected by one or more marital links (Schusky 1972: 89).

<sup>&</sup>lt;sup>15</sup>Consanguineal relatives are relatives whose every connecting link is of "blood" or common ancestry (Schusky 1972: 90).

marriage are the centre of African life and it is marriage and children that see to it that it continues" (Jefferson & Skinner, 1990: 49).

To understand how any part of a system works, it is necessary to find out how that part functions in relation to or as a part of the whole system. The social significance of polygyny can be better understood when one considers the economic and cultural functions that it plays in the society. In other words, to understand the custom of polygyny it is necessary to "consider polygyny as a functional part of the functioning whole" (Hillman, 1975: 114): in the preservation of the family or the lineage.

In a society of subsistence food production, a large number of children is needed to provide labour force for each family; to ensure presence of children as the average rate of child mortality is very high, and to ensure the continuity of the family line through male heirs. In Africa, children are valued for their labour, emotional support, and old-age security for parents.

In a society where the desire for many children is the paramount concern of spouses, the practice of polygyny is socially acceptable and it is considered the surest means of achieving societal ideals or goals. "A man with more than one wife is normally going to have in his family more children than a man with only one wife" (Hillman, 1975: 115). In a society where its subsistence depends on agricultural produce, and production relies on manpower of the household, specifically on the production value or capacity of the women, "each family tends to use its surplus income to increase its labour force i.e. the number of co-wives and children in the household (Clignet, 1970: 22-23). Any interested male who can afford to pay additional bride-wealth could, therefore,

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increase his household. This means that women are valued not only for their roles in the subsistence economy but also for their roles in food production and the production of children to reinforce the family labour force (Goody, 1973: 185). This also suggests that polygyny is associated with social differentiation. It is a status symbol. It discriminates between "the haves" and "the havenots". Therefore, it is considered a symbol of importance and success in life. Since socio-economic security and family stability in Africa depend on the number of children in the household, it seems that polygynous households have an edge over monogamous households. But it is an ideal that can hardly be achieved by the majority of men in such societies due to economic constraints.

Aside from the need for children, polygyny is motivated by the need for alliances between extended families and clans. In other words, "polygyny is a function of social solidarity or the level of the extended family, the clan and the tribal or ethnic community" (Hillman, 1975: 117-118).

A quote from Lesthaeghe (1989: 51) summarizes the central ideas propounded by Hillman. "The African reproduction regime has often been typified as a classic example of fertility maximization, with the prime goal of being the safeguarding of the survival of societies living in a harsh environment and operating a subsistence economy based almost exclusively on human labour. This maximization hypothesis draws ample support from evidence regarding the universality of marriage, the restriction of the amount of exposure time lost through union disruptions, the strong desire for large families, the major economic and social significance of children, and, as a corollary, the high resistance so far to parity-specific forms of fertility limitation." The next section brings into focus the classical framework of Davis and Blake (1956) that has been employed in several similar studies. The framework was developed for the comparative study of human reproduction. The importance of the framework is its ability to consider not only differences in social organization of different societies that relate to different fertility levels, but also differences within any given society in its own social organization that may influence differentials in fertility levels among sub-groups of that particular society. Thus the framework provides ample opportunity for comparative studies of any aspect of social structure as it influences fertility.

The usefulness of Davis and Blake's analytic framework in the current study is that, firstly, it facilitates the selection of appropriate variables (as available in the Ghanaian data) through which the institution of marriage must influence fertility in the Ghanaian context. Secondly, it provides "some types and elements of social organization" (Davis & Blake, 1956: 211) that essentially act via the afore-mentioned selected variables to either depress or enhance fertility of Ghanaian women. For the purpose of analysis of data, the study draws heavily on the framework of Davis and Blake (1956).

## 4.2. Davis and Blake's Analytic Frame of Reference

Davis and Blake (1956) observe that varying fertility rates among different societies are due to differences in their social organization. But differences in social organization may not necessarily result in differences in fertility; it may also result in fertility similarities through certain institutional mechanisms. Equally important is the fact that societies themselves have differences within their social organization, and these

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differences seem to account for variations in fertility in these societies. In view of this, Davis and Blake (1956) developed an analytic framework consisting of an inventory of eleven variables through which social structure/organization and social norms can influence fertility.

The theory presents a framework to explain how types or elements of a social organization, acting through certain demographic variables, can either depress or enhance fertility. These demographic factors are also known as proximate determinants of fertility. The theory recognizes the fact that the process of biological reproduction involves three necessary steps that can be found in all cultures. The steps are intercourse, conception, and gestation and parturition. It is only through these three steps that cultural factors can influence fertility. For this reason, they have grouped their eleven intermediate variables into three groups as follows<sup>16</sup>:

I. Factors affecting Exposure to Intercourse ("Intercourse variables")

A. Those governing the formation and dissolution of unions in the reproductive period.

1. Age at entry into sexual unions.

2. Permanent celibacy: proportion of women never entering sexual unions.

3. Amount of reproductive period spent after or between unions. (a) When unions are broken by divorce, separation, or desertation. (b) When unions are broken by death of husband.

B. Those governing the exposure to intercourse within unions.

4. Voluntary abstinence.

5. Involuntary abstinence (from impotence, illness, unavoidable but temporary separations).

<sup>16</sup>Source: Kingsley Davis and Judith Blake (1956) "Social Structure and Fertility: An analytic Framework" in <u>Economic Development and Culture Change</u> vol.4, pg.212.

6. Coital frequency (excluding periods of abstinence).

II. Factors affecting Exposure to Conception ("Conception variables")

7. Fecundity or Infecundity, as affected by involuntary causes.

8. Use or non-use of contraception.

(a) By mechanical or chemical means.

(b) By other means<sup>17</sup>.

9. Fecundity or infecundity, as affected by voluntary causes (sterilization, subincision, medical treatment, etc.)

III. Factors affecting Gestation and successful Parturition ("Gestation variables")

10. Foetal mortality from involuntary causes.

11. Foetal mortality from voluntary causes.

"Any cultural factor that affects fertility must do so in some way classified under one or another of our eleven variables" (Davis & Blake, 1956:213). Cultural factors are the "conditioning variables" that refer to social or cultural institutions in which intermediate variables are embedded.

According to Davis and Blake, any effect of these variables may be either negative (minus) or positive (plus) on fertility. In each society there is a range of influence of each of these variables. Any effect more negative than the midpoint of the range of influence will be on the minus side, and any effect more positive than the midpoint of influence will be on the plus side. For instance, if contraception is not practised, the non-practice will have a positive value on fertility with regard to variable

<sup>&</sup>lt;sup>17</sup>Means of contraception other than mechanical and chemical include the "rhythm" method (which can be classed as voluntary abstinence), withdrawal, simulated intercourse without penetration, various "perversions" etc.

number 8. Thus variables like (the practice of) contraception, abortion and abstinence will definitely have a negative effect on fertility.

The interactional effects of all these intermediate variables do influence fertility in varying degrees according to the social and cultural institutions within which they are embedded. It should also be noted that other social and cultural factors such as "religious beliefs, educational levels or degree of urbanization affect fertility only by influencing one or more of these intermediate variables" (Blake, 1961: 14).

Davis and Blake have made some assumptions about how these variables affect fertility, some of which will now be reviewed.

The variable "age of entry into unions" deals with exposure to intercourse and no matter how favourable it may be to fertility, it is in itself governed by other factors such as conception and gestation. For instance, even though sexual unions may start early, pregnancy or childbirth may be prevented. This refers specifically to societies that allow pre-marital mating but forbid illegitimate pregnancy. But in marital unions, reproduction is allowed, in fact expected. There are also non-marital unions in which reproduction occurs. Therefore, in dealing with age of entry into union, a distinction is made between marital and non-marital unions.

The fertility value on this variable is assumed to be generally positive because from a functional point of view, high mortality rates in developing societies lead people to take precautionary measures against the failure of population replacement. Thus early entry into unions is believed to guarantee, at least, some replacement of the population before parents die. If entry into unions is late, the fertility lost can never be regained. However, early entry into unions does not necessarily mean large families because there are other mechanisms that can check fertility, e.g., abstinence, contraception, abortion or infanticide.

The next variable that has a strong influence on fertility is the extent of permanent celibacy or non-marriage. Both late marriage and celibacy can have a negative effect on fertility but only if there is an exercise of self-restraint outside wedlock or the practice of other preventive measures. Non-marriage does result in low reproduction among the unmarried because "marriage in all societies is the preferred institutional arrangement for having children" (Davis and Blake, 1956: 218). Celibacy is, therefore, discussed solely in the context of non-marriage.

Although permanent celibacy is a strong factor that precludes fertility, it is uncommon in developing countries. For example, in India, in 1931, it was 3.4%; in Ceylon, in 1946, it was 3.4%; and in Malaya, in 1947, it was 3.3% (Davis and Blake, 1956: 218). Thus the factor of celibacy in developing societies has high positive values for fertility, whereas the opposite is true for urban-industrial societies.

According to Davis and Blake, developing societies have been less influenced by these two variables discussed above than do urban-industrial societies. This is because of the condition of heavy mortality that prevails in the former societies. As a result, their peoples have devised mechanisms that can involve their women in active reproduction. "Their participation is organized through the institution of marriage, which links sex and reproduction to the care and socialization of children" (Davis and Blake, 1956: 219). This institution is in turn propped up by other institutions in the social structure. Marital relations become the general norm and the pivot around which other relations oscillate. Through marital relations, individuals expect to achieve their goals and aspirations. If for some reason the level of mortality is decreased, marital relations do continue because there is the need for a family organization that will cater for the reproduction and socialization of its offspring. Therefore, the event of marriage continues except that it may be postponed but not discarded completely.

One important point also worth noting is that an increase in celibacy will not reduce fertility if steps are not taken to abstain from coitus out of wedlock or prevent pregnancy. In the absence of contraception and abortion, non-marriage could control fertility provided there is permanent sexual abstinence. But this is a price that seems too high for any society in the developing world to pay (Davis and Blake, 1956: 219).

Use or non-use of contraception is another variable discussed by Davis and Blake. Developing societies show a strong antipathy to contraception. In such societies, there is little effective means of making the supply of fertility control methods available, even in situations where individuals are motivated to use them. Aside from this, contraception in these areas is used not to control the fertility of married people, but used in extramarital or pre-marital affairs. It is doubtful that the way contraception is practised it can have an important effect on the fertility of these societies.

With regard to societies that permit extra-marital relations, there is no concern about women in such relations becoming pregnant from whichever man, because illegitimate births are not condemned. But in societies that condemn illegitimate births from adulterous relations, extra-marital affairs are restricted.
Another reason given by the authors is that, in pre-industrial societies, the physical task of rearing children rests solely on the mother. The husband does not experience the hardships involved. If there is a wish for the use of contraception, then it will probably be on the part of the women, because they are under pressure. The husband will be less interested in helping her avoid pregnancy. "The social insulation" of both wife and husband is so strong that there is infrequent communication between them, especially about matters sexual. In this situation, it is difficult for spouses to discuss contraception. These reasons explain why the use of contraceptives, even when they are available, is restricted in underdeveloped countries.

The amount or the degree of marital instability, as well as the time lost during such periods can negatively affect fertility. On the contrary, if unions are stable and no interaction time is lost, fertility will be positively affected. The theory assumes that, relatively, the rate of marital dissolution is lower in pre-industrial societies than in industrial societies due to institutions that support marriage and help to make it stable. For instance, the clan or the extended family tends to have precedence over the nuclear family which seems to be somewhat unstable. The former tends to support the stability of the latter.

Informal unions such as "common law" or "consensual" unions tend to be less stable than legal marriages. "In such cases, the woman may wait for some time before entering a new union, and the fertility lost may be substantial. For a small sample of women in Jamaica where around 70% of the births are illegitimate, the reduction in fertility due to the instability of unions was approximately 37% (Blake, 1955: 26-30).

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Davis and Blake assert that the variable, time between unstable unions, has a plus value on fertility in pre-industrial societies, because there is evidence to show that little time is lost between such unions due to early remarriage. Moreover, some societies permit reproduction in the unstable unions.

Another intermediate variable in the theory is voluntary abstinence within unions. There are four types of abstinence viz: postpartum, occasional, gestational and menstrual. The first two have a minus effect on fertility, whilst the last two have no effect on it.

Postpartum abstinence is observed in all societies but the length of practice varies from society to society. If postpartum abstinence is observed longer, it helps to space out children. But this is not the reason why it is practised in pre-industrial societies. Rather, it is viewed as a taboo that must not be violated. Aside from this, where husbands have other wives available (as in polygynous marriages), the practice of long postpartum abstinence is not inconvenient.

"Occasional" abstinence from coitus occurs on certain days that are deemed holy or sacred, regular holidays, special days of the week, and tabooed days. In societies where these observances extend over quite a long period of time, it can have a minus value on fertility. Gestational and menstrual abstinence as already mentioned cannot have a negative effect on fertility.

In conclusion, Davis and Blake's (1956) taxonomy of intermediate variables has set the stage for a meaningful analysis of how institutional factors affect fertility. In this vein, the present study completely agrees with Jones (1982: 280) who thinks that "the important thing about the framework is that it helps to systemize the study of fertility and draws attention to the fact that, even where the intermediate variables are not considered in a particular analysis, they are necessarily the proximate determinants of fertility." It is also useful for a comparative study of fertility. The foregoing review addresses some of the assumptions in the framework that will be used as a frame of reference for the present study. This section presents a simple correlational model that is employed for the analysis of the data. In order to discuss with clarity the relationship among the variables involved in the study, a diagram of relational connections (figure 1) is proposed between the variables as suggested by Jackson (1988: 71-72).



# Figure 1

An Intervening Variable Model

Besides the independent variable (marriage type) and the dependent variable (fertility), the following intermediate variables have been selected based on the data available: age at marriage, length of postpartum abstinence, and marital duration. The effects of these intermediate variables on the relationship between the independent and dependent variables are controlled for. Therefore, the model being proposed for the analysis is an intervening variable model (Jackson, 1988: 71). It considers one or more variables which link the independent and dependent variables as shown in the diagram above. This model will be utilized in chapters five and six.

In view of the evidence put forward by the theories and previous data on the subject, the following propositions have been hypothesized for testing the Ghanaian data: (a) women of various socio-economic backgrounds differ in their tendency to enter monogamous and polygynous marriages; and (b) women in both types of marriages differ in their fertility levels.

The following hypotheses are formulated for testing the Ghanaian data:

Hypothesis 1: Higher educated women are more likely than lesser educated women to enter monogamous marriages.

Hypothesis 2: Women in prestigious occupations are more likely than women in less prestigious occupations to enter monogamous marriages.

Hypothesis 3: More rural than urban residents are likely to enter polygynous marriages.

Hypothesis 4: Women of Western religious affiliation are attracted to monogamous marriages.

Hypothesis 5: Controlling for age of women at marriage, number of years since marriage (marital duration), and months of postpartum abstinence, there is no difference between the fertility of women in polygynous marriages and the fertility of women in monogamous marriages.

A description of the methodology is presented in the following chapter.

#### **CHAPTER FIVE**

#### DATA AND METHODS

This thesis is a micro-level quantitative study. The unit of investigation is individual women at risk, i.e., married women between the ages of 15-49 in families of procreation.

Firstly, the data source is described. Secondly, the criteria for the selection of an appropriate sample for the analysis are established. Next, the mode of analysis employed is explained, and finally, foreseeable shortcomings of the study are also mentioned in the last section.

# 5.1. The Data

The current investigation has used pre-collected data for secondary analysis. The main source of the data is the Ghana Demographic and Health Survey (GDHS) conducted in 1988 by the Ghana Statistical Service. The Ghana Survey is part of the world wide Demographic Health Surveys (DHS) program. It is to date the most comprehensive inquiry, and it is designed to generate data on fertility, family planning, and maternal and child health.

The population of Ghana is 12.3 million according to 1984 estimates<sup>18</sup>, and in order to generate reliable data on the population, a target sample of 4488 households was set for the survey. The study population was all women at risk, i.e., all women between

<sup>18</sup>See Summary Report of Ghana Demographic and Health Survey (1988), pg.19.

15 and 49 years of age, and a subsample of 943 husbands of women interviewed. The DHS data are available in both raw and recode formats. Usually, raw data contain variables as collected in the original questionnaire and are in the form that may not be convenient for analysis. The recode data are the raw data that have been transformed into a standardized dataset so that they will be easy to use for analysis. For the purposes of this thesis, the standard Individual Recode File (containing 4488 cases) is used for this analysis.

#### **5.2.** Sample Selection

With reference to the methodological problems raised in the introduction, which could possibly jeopardize the validity of findings, the following steps have been taken to exclude certain elements from the study with the aim of ensuring validity.

(a) Since the study is concerned with marital fertility, only women who are currently married have been selected for analysis. Non-marital or out of wedlock fertility cannot be accounted for by any of the marriage types, and therefore has been excluded from the study sample.

In the Ghana Demographic and Health Survey, a question was included on the current marital status of respondents as follows:

Are you now married or living with a man, or are you widowed, divorced, or not now living together?

Table 5.1 summarizes the frequency distribution of the women by marital status. About 65% of women respondents reported themselves currently married.

Table	51	
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Marital status	Frequency	Percentage	
Never married	889	19.8	
Married	2908	64.8	
Living together	248	5.5	
Widowed	69	1.5	
Divorced	250	5.6	
Not living together	123	2.7	
Total	4487	100.0	

Percentage Distribution of Women by Current Marital Status

(b) Only women who have been in only one type of marriage at the time of the generation of this data have been selected for the analysis. This is to ensure that respondents who have been in more than one type of marriage are excluded from the study because there is the possibility that some of them might have conveniently reported children or births from previous marriages as belonging to current marriages. Therefore, this measure is being taken in order to prevent this possible source of misreporting.

The selection of only women who have been in one union is from the following GDHS question:

Have you been married or lived with a man only once, or more than once?

Over sixty-six percent (66.5%) of the women were reported to be married only once. The rest (33.5%) have either been married more than once or not been married.

(c) Only women who have had at least one child in their lifetime have been included in the study in order to remove the effect of sterility. The aim of this measure is to remove any doubts about the sequence of fertility being engendered by marriage type (and not vice versa).

The inclusion of the following question in the GDHS has made this selection also possible:

Now I would like to ask about all the births you have had during your life time. Have you ever given birth?

Over twenty-three percent (23.1%) of the women respondents have never had any children and 76.9% of them have had children.

In sum, the selection of the sample for analysis has been based on the following three criteria: only women who are (a) currently married, (b) have been in only one marriage, and (c) have given birth to at least one child in their marriage. Therefore, women who have met all three "qualifications" concurrently have been included in the sample.

Consequently, a sample size of 1797 out of the original 4488 (in the data set) have been produced by the data selection card for analysis.

## 5.3. Description of Mode of Analysis

Having established the criteria for the selection of the desired sample, a description of the mode of analysis of the data is offered. It has three main objectives, viz., (a) to estimate the prevalence of polygyny in terms of its incidence, intensity, and general index or summary index; (b) to describe the socio-economic background (characteristics) of women in the two types of marriages; and (c) to estimate the effect of each type of marriage on the fertility of women, controlling for the effect of intervening variables on the relationship between the independent and dependent variables.

## 5.3.1. Estimating Prevalence of Polygyny

According to Dorjahn (1959: 98), measuring polygyny should be basic to testing any hypothesis relating to the demographic aspects of polygyny. The rationale behind this approach is to assign numerical values to this phenomenon in order to have a clearer understanding of the frequency and extent of polygyny in a society. But first, definitions of the three indicators of prevalence of polygyny are offered. Incidence refers to the frequency of polygyny in the population. Intensity refers to size of polygynous households. The general index is the ratio of married women to married men in the population.

The measures employed elsewhere by Dorjahn (1959: 104) and van de Walle (1968: 194-221) in estimating the prevalence of polygyny are employed here:

Incidence is measured by the number of polygynists per 100 married men. Intensity is measured by the number wives per 100 polygynists. The general Index is measured by the number of married women per 100 married men. It can also be measured by the number of wives per number of husbands<sup>19</sup>.

Usually when the incidence exceeds 20%, the population is described as being characterized by general polygyny and when the incidence is below 20%, the population is described as being characterized by limited polygyny (Clignet, 1970: 16-34).

#### **5.3.2.** Correlates of Marriage Type

The second task is to examine the social and economic correlates of marriage type. To facilitate the description of the socio-economic background characteristics of the women, contingency tables were prepared using the SPSSx CROSSTABULATIONS subprogram. The results are presented in the next chapter.

The following steps are taken in testing the hypotheses:

(a) The test statistics chosen for testing hypotheses 1 to 4 is Pearson Chi Square.

(b) The test statistics chosen for testing hypothesis 5 is multiple regression.

(c) The significance level set for deciding on the hypothesis is .05. In other words, the cut off point or critical value for rejecting or failing to reject the null hypothesis is .05 (let p < .05).

<sup>&</sup>lt;sup>19</sup>See Charles E. Welch, III & Paul C. Glick (1981) "The Incidence of Polygamy in Contemporary Africa: A Research Note" in <u>Journal of Marriage and the Family</u>. vol.43 (Feb.)pg.192.

(d) It is a two-tailed test because we are unable to say the direction of the difference in fertility of the women, whether it is higher for women in monogamy than polygyny or vice versa.

#### 5.3.3. Estimating the Influence of Marriage Type on Fertility

Multiple regression analysis is employed to measure the influence of marriage type on fertility and the findings are presented in the next chapter.

Multiple regression analysis is a multivariate statistical technique that has several advantages which make it an appropriate method for the analysis at hand. This sophisticated statistical analysis has the potential to reveal the importance of a variable that would otherwise be hidden by zero-order correlation (Gordon, 1968: 592). In a multivariate situation such as the one at hand, the influence of each of the independent or explanatory variables on the dependent or criterion variable can be examined through this statistical technique. In this sense, multiple regression is being utilized as a descriptive tool. When it is used to test an hypothesis, then it is being used as an inferential tool.

Regression can be used to predict the dependent variable when scores on the independent variables are known. A predictive equation or a linear regression equation can be obtained as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k$$

where Y axis represents the dependent variable - fertility.  $\propto$  is a constant or the intercept. It represents the point where the regression line cuts the Y axis. It is the value

of Y when  $\beta$  coefficient is zero. The  $\beta$  (coefficient) stands for the slope of the regression line. They ( $\beta$ s) represent the amount of change in Y (fertility) that can be induced by a unit change in Xs (marriage type, age at marriage, marital duration and length of postpartum abstinence). To be more specific,  $\beta_1$  coefficient stands for the amount of change in fertility that can be induced by a unit change in X<sub>1</sub> (type of marriage) whilst X<sub>2</sub> (age at marriage) is held constant. Similarly,  $\beta_2$  is the expected change in fertility with a unit change in X<sub>2</sub> (age at marriage) whilst controlling for X<sub>1</sub> (type of marriage). According to Nie et al (1975: 330), based on this interpretation,  $\beta_1$  and  $\beta_2$  can be called partial regression coefficients or beta weights.

As already mentioned, this technique is concerned with the amount of variation in fertility that can be explained by linear dependence upon a multiple of independent variables jointly. The strength of the dependence of fertility on marriage type, age at marriage, marital duration and postpartum abstinence, or the measure of the variation in fertility that is explained is reflected in the  $R^2$ .  $R^2$  is the coefficient of the proportion of the variation in fertility that is explained by a combination of all the independent variables. It is also known as coefficient of determination.

The advantage of multiple regression in terms of this analysis is that, it will be able to partial out the effects of the demographic (intermediate) variables, viz., marital age, postpartum abstinence, and marital duration in the context of Davis and Blake's (1956) theory. Based on their theory and the literature reviewed, multiple regression analysis should be able to reveal whether or not the observed relationship between type of marriage and fertility can disappear by controlling for the intermediate variables that

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have been hypothesized to be relevant, and might have been obscured by a simple zeroorder correlation analysis. Another advantage is that it will be able to reveal which independent variable(s) do(es) not add substantially to the prediction accuracy or which variables are statistically more predictive than the others.

# 5.3.4. Multiple Regression: Assumptions and Practical Problems

Underlying the results of multiple regression analysis are the assumptions of normality, linearity and homoscedasticity (i.e. homogeneity of variance) between the predicted scores of the dependent variable and the errors of prediction. These are assumptions one has to make about the data if one wants to test an hypothesis about the population regression line (Norušis, 1991: 374). Normality refers to the sampling distribution of means of central tendency. This assumption means that "the distributions of the errors of prediction must be normally and independently distributed at all levels of the dependent variable" (Tabachnick & Fiddel, 1983: 93). According to Nie et al. (1975: 34), whenever a sample size is large, it protects against failure or violation of normality and it can be relaxed. Based on that the assumption of normality could be said to have been met considering the relatively large sample size (1797 cases) involved in the present study. Therefore, it is assumed that the sample selected for this study is normally distributed in the population and that skewness is equal to zero.

The assumption of linearity is that the relationship between or among the variables can be described by a straight line. There are several models that can describe the relationship between or among variables, such as linear, quadratic, cubic etc., but the model of Pearson r which is the basic principle underlying multiple regression can handle effectively only the first type. Therefore, a relationship that is quadratic, for example, will be nonlinear or weakly linear<sup>20</sup> (Tabachnick & Fidell, 1983: 80-81).

The assumption of homoscedasticity is that "the variability in scores on one variable is roughly the same as at all values of the other variables" (Tabachnick & Fidell, 1983: 81). This means that the distribution of scores on the dependent variable has the same or similar variance. For example, variance in fertility is the same for women whose age at marriage was 15 years, 20 years, and 25 years. Since these three assumptions are interrelated (Tabachnick & Fiddel, 1983: 76-77), normality implies the presence of the linearity and homoscedasticity. Nonetheless, as an initial measure in this analysis, residual scatterplots were requested for in order to test for these assumptions. A direct examination of the residuals shows that the assumptions have not been violated.

There are also a couple of problems connected with running multiple regression analysis that have been considered prior to the analysis. The first one is that the number of cases should be more than the number of variables, lest the regression results will be meaningless or perfect. It is suggested (Tabachnick & Fidell, 1983: 9) that, ideally, the case-to-variable ratio should be 40 to 1. At least there should be 20 times more cases than variables. This will ensure the normality of residuals. In any case, this problem is not applicable to this data because it contains 1797 cases and 23 variables: a case-variable ratio of approximately 78 to 1.

<sup>&</sup>lt;sup>20</sup>According to Tabachnick & Fiddel (1983: 80) it is possible, however, that nonlinear relationships be transformed to linear ones by mathematical manipulation, e.g. by taking the logarithm or some other transformation of the variable.

The second problem is multicollinearity which refers to the "situation in which some or all of the independent variables are very highly intercorrelated" (Nie et al, 1975: 340). A two-variable collinearity can be detected by high Pearson correlation between two variables. For instance, a correlation coefficient between 0.8 and 1.0 indicates collinearity between the two variables. According to Nie et al. (1975: 34), when extreme multicollinearity exists, there is no acceptable way of performing regression analysis using those interrelated variables. One important method of solving this problem, if it is detected, is to delete the offending variable(s) from the set (Nie et al. 1975: 341; Tabachnich & Fidell, 1983: 83).

To test for multicollinearity among the variables, a number of regressions have been performed, using the independent and intermediate variables each in turn as the dependent variable and all others as independent variables. Then their  $R^2s$  and Tolerance<sup>21</sup> are examined. All the variables have low  $R^2s$  and high Tolerances. This means that none of the variables are collinear.

#### **5.5. Limitations of the Study**

The shortcomings of the current study relate to the generation of the data. Even though an attempt is made to select only women who have continuously been in one marriage, there may be cases where it is impossible to distinguish, for example, first marriage from second marriage. This is because all monogamous unions are potentially

<sup>&</sup>lt;sup>21</sup>Tolerance "is the proportion of variability in an independent variable not explained by the other independent variables" (Norušis, 1983: 165).

polygynous indicating that polygynous marriages started as monogamous ones unless two or more wives have been married simultaneously to the same husband. In other words, senior co-wives have once been in monogamous marriages. Therefore, all those senior co-wives who may have claimed to be continuously in polygyny, as the case may be, have in actual fact, experienced two phases of marriage. Hence it is possible that a senior co-wife (in the sample) may have had her offspring when the union was still monogamous. But since she did not change union (and it is the union type that has changed), her reported fertility, if she did not differentiate between children from her monogamous phase of marriage, can constitute misreporting for purposes of this thesis. This possible error in the information cannot be remedied.

The presence of illegitimate births constitute another possible source of error in the data. There is no way to detect whether illegitimate births have been reported as legitimate.

Having described the mode of analysis employed in this study, the findings are next presented in chapter six.

# CHAPTER SIX

# ANALYSIS AND FINDINGS

The first segment of this chapter is concerned with the three measures of polygyny, i.e., incidence, intensity and general index. It is hoped that the following calculations will assist readers to have a clearer picture of the occurrence of this phenomenon in the data set used for the study.

#### 6.1. Prevalence of Polygyny

From the data, the following information on the occurrence of polygyny in Ghana have been documented as summarized in table 6.1 below:

# Table 6.1

Frequency Distribution of Women by Type of Marriage

Type of Marriage	Frequency	Percentage	
 Monogamy	1226	68.4	
Polygyny	567	31.6	
 Total	1793	100.0	

Missing cases = 4

Number of respondents currently and legitimately married is 1797. However, the valid cases involved in the computation is 1793 because of 4 nonresponses. Number of

respondents in monogamous and polygynous marriages is 1226 which constitutes 68.4% and 567 which constitutes 31.6% of the sample population respectively. Number of monogamists is equivalent to number of women in monogamous marriages, (i.e., 1226) and the number of polygynists is also equivalent to number of women respondents in polygyny, (i.e., 567).

Using the figure in table 6.2, the total number of wives (including other wives) of polygynists can be determined. The figures in the first column represent the response categories of other wives in a household. These are multiplied by the figures in the second column (the number of women responding to the categories in the first column) to produce the third column.

#### Table 6.2

Number of	of Other Wives	Frequency	Number x Freq.
1		193	193
2		314	628
3		47	141
4		11	44
5		2	10
Тс	otal	567	1016

# Number of Wives in Polygyny

Missing cases = 4

These figures show that the number of respondents (wives) in polygyny is 567. The number of additional wives in polygyny is 1016. Total number of all wives of polygynists is 1583 (567 plus 1016). Number of all wives in monogamy (1226) plus all wives in polygyny (1583) equals 2809.

Following Dorjahn's (1959) advice regarding the measurement of polygyny, the Incidence is 31.6%.

Incidence = number of polygynists per 100 husbands =

$$\frac{567}{1793} \times 100 = 31.6\%$$

Since this figure exceeds 20%, the sample can be appropriately described as characterized by general polygyny (Clignet 1970: 16).

Intensity = number of wives (of polygynists) per 100 polygynists =

$$\frac{1583}{567} \times 100 = 279.2\%$$

The sample also shows an Intensity of 279.2%. This means that for every 100 polygynists there are approximately 279 women married to them.

The General Index = the ratio of wives to husbands (or number of wives per 100 husbands) =

$$\frac{2809}{1793}$$
 = 1.57

The summary index of 1.57 or 157 means that there are 1.57 wives to every husband or 157 wives to every 100 husbands. This is above the general index of 128 which reflects the norm of all Tropical Africa according to Ukaegbu (1977: 399).

The above figures may raise the question "Where does the supply of potential wives for potential polygynists come from?" The answer lies in the fact that, in the Ghanaian society, women marry earlier than men and due to that, there is an age lag which makes available an excess of marriageable women, although there are other explanatory factors such as the relatively high mortality rate in the male segment of the population.

The next section is a presentation of findings about some selected socio-economic factors that may influence the type of marriage Ghanaian women may enter. The socio-economic factors considered are educational level, occupation, place of residence and religion of wives.

#### 6.2. Socio-economic Characteristics of Wives by Marriage Type

The relation between educational level of married women and type of marriage is summarized in Table 6.3. Over fifty-nine percent (59.4%) of wives without any formal education are married to monogamists whereas 40.6% of that category are married to polygynists. Some seventy-five percent (75.7%) of women having primary education are found in monogamous unions versus 24.3% of that category who are found in polygynous unions. The majority of wives having secondary or higher level of education (84.2%) are married to monogamists whereas only 15.8% of them are married to polygynists. The information in the table shows that wives without any formal education are over-represented in polygynous unions. The association between education and type of

marriage is found to be statistically significant based on Pearson's Chi-square approximation and therefore hypothesis 1 is supported.  $\chi^2(2, N=1793)=65.88, p < .05$ .

## Table 6.3

# Percentage Distribution of Women in Type of

Type of Marriage	No Education	Primary	Secondary/ Higher	Total	4 Anna 2013 - Anna 2013
Monogamy	515 59.4	615 75.7	96 84.2	1226 68.4	
Polygyny	352 40.6	197 24.3	18 15.8	567 31.6	
Column Total	867 48.4	812 45.3	114 6.4	1793 100.0	
% Difference	18.8	51.4	68.4		
Chi-Square	Valu	ie DF	Sign	iificance	
Pearson	65.8	88098 2	.000	000	

#### Marriage by Level of Education

The evidence presented above indicates a positive association between education and monogamy and an inverse association between education and polygyny. Thus marriage type varies with level of education. When the difference between the percentage scores for monogamy and polygyny are computed for each category, the results show that more women with secondary or higher education (68.4%) are found in monogamous unions than women in the other categories. This is followed by women with primary education (51.4%), and those with no education (18.8%) in that order. The finding is consistent with previous ones by Ukaegbu (1977) from Eastern Nigeria and Shaikh et al (1987) from Bangladesh, and could be attributed to the influence of certain social change factors such as western formal education and its corollary values as well as the prevailing economic constraints which, as one researcher (Ohadike 1968: 380) has observed, will reduce the occurrence of polygyny in the near future.

A contingency Table for women's occupation prior to marriage is also presented below:

# Table 6.4

# Percentage Distribution of Women in Type of Marriage by

Type of Marriage	Did not work	Prof/Tech/ managerial	Clerical & Sales	Agric.	Services by. & manual	Row Total
Monogamy	777	32	230	58	128	1225
	68.6	78.0	66.5	66.7	70.3	68.5
Polygyny	356	9	116	29	54	564
	31.4	22.0	33.5	33.3	29.7	31.5
Column	1133	41	346	87	182	1789
Total	63.3	2.3	19.3	4.9	10.2	100.0
% Diff.	37.2	56.0	33.0	33.4	40.6	
Chi-S	quare	Value	DF	Signif	ïcance	
Pears	on	2.81007	4	.5900	9	

Occupation Before Marriage

Contrary to earlier reports, it seems that both types of marriage attract women with different occupations. In fact, all types of occupations have their highest proportions represented in monogamous marriages. Complementarily, all types of occupations have their lowest proportions in polygynous marriages. Agricultural, and clerical and sales workers over-represented seem to be in polygynous unions whereas professional/technical/managerial, services and manual workers seem to be overrepresented in monogamy. However, the association between women's occupation before marriage and type of union does not show any statistical significance according to Pearson's Chi-square estimate.  $\chi^2(4, N=1789)=2.81$ , p > .05. This indicates that occupation and marriage type are unrelated in the population under study. Knowing a woman's occupation before marriage tells one nothing about the type of marriage she is likely to enter into. Hence, the two variables are statistically independent and therefore, the second hypothesis is rejected.

The information on the occupational background of the sample women shows that marriage type does not vary with occupation. The evidence presented does not agree with that of Ahmad (1988) from Western Nigeria. Both monogamy and polygyny can appeal to Ghanaian women irrespective of their occupations; a finding which lends support to Amoo's (1946: 229) observation that the attitude of Ghanaian women to polygyny is mixed. This is indicative of marriage type as a recognised and appreciated custom which can transverse certain social and economic structures. Therefore, it suggests that in general, both types of union can appeal to women of all walks of life though there may be exceptions. The differentials by wives' place of residence reveal that more women in urban areas are likely to be in monogamous marriages than in polygynous marriages. As shown in Table 6.5, 75.2% of wives in urban settlements are in monogamy, whereas only 24.8% of them are in polygyny. In the rural setting, 65.5% of wives are monogamously married, as against 34.5% of them in polygynous marriages.

# Table 6.5

# Percentage Distribution of Women in Type of Marriage by

Type of Marriage	Urban	Rural	Total
Monogamy	401 75.2	825 65.5	1226 68.4
Polygyny	132 24.8	435 34.5	567 31.6
Column Total	533 29.7	1260 70.3	1793 100.0
% Difference	50.4	31.0	
Statistic	Value	DF	Significance
Pearson	16.49513	1	.00005

Place of Residence

Even though both urban and rural residents have their highest proportions in monogamy, the percentage difference between women in monogamy and polygyny is larger for urban residents (50.4%) than for rural residents (31.0%). This means that in

urban areas more women are found in monogamous marriages than in polygynous marriages, whereas in rural areas, relatively, more women are found in polygynous marriages than in monogamous ones. Since women's place of residence and their type of marriage show a significant association, hypothesis 3 is true.  $\chi^2(1, N=1793)=16.50$ , p < .05.

The current information on residence and type of marriage contrasts with an earlier finding from Ghana by Busia (1954) who found the occurrence of polygyny to be the same in both rural and urban settlements, and practised by anyone who could find it advantageous. Busia's (1954) study can no longer be accepted. The current evidence suggests that rural and urban residents do discriminate between types of union. Increasing number of urban residents are finding it more and more advantageous and convenient to settle for only one wife. This seems to be due to harsh urban living conditions, such as housing problems, unemployment, high living costs and expensive transportation, that are not conducive to plural marriage and large households.

The higher frequency of polygyny in rural areas may be attributed to the traditional outlook on life of residents who still consider polygyny as a symbol of status. Also, a support system is available for raising children which is usually provided unconditionally by all kinsfolk. This encourages rural residents to have as many children as they can through plural marriages since the onus of child-raising does not fall on the shoulders of parents alone. But the situation in urban areas, which leans toward individualism, is relatively different. It is also possible that the rural-urban discrepancy is due to the practice of rural widow remarriage as noted by Pool (1968).

As one may recall, Pool's (1968: 247) data revealed that 45% of the then rural marriages were polygynous. Compared with the current figure of 34.5% indicates a decrease in the occurrence of polygyny in rural areas of Ghana.

Religion also appears to be related to type of marriage as shown in Table 6.6. Catholics (74.8%), Protestants (76.1%), Moslems (56.9%) and women with no religious affiliation (61.3%) have their highest proportions in monogamous marriages, whereas traditional and other religious practitioners (51%) have their highest proportions in polygyny. In spite of that, Catholics (74.8%), Protestants (76.1%) are over-represented

## Table 6.6

# Percentage Distribution of Women in Type of Marriage

Type of Marriage	Catho	).	Protes.	Mosl.	Traditic & oth	onal ner. No rel.	Total
Monogamy	211		638	128	102	147	1226
	74.8		76.1	56.9	49.0	61.3	68.4
Polygyny	71		200	97	106	93	567
	25.2		23.9	43.1	51.0	38.8	31.6
Column	282		838	225	208	240	1793
Total	15.7		46.7	12.5	11.6	13.4	100.0
% Diff.	49.6		52.2	13.8	-2.0	22.5	and and a second se
Chi-S	Square	Value		DF	S	Significance	
Pears	son	84.081	44	4	-	00000	

## by Religion

in monogamous marriages, whereas Moslem women (43.1%), and women who hold traditional and other religious beliefs (51%) are over-represented in polygynous marriages. The association between religion and type of marriage is a significant one therefore, the fourth hypothesis is also true.  $\chi^2(4, N=1793)=84.08$ , p < .05.

In line with initial prediction and past findings by Ohadike (1968) and Ahmad (1986) that Moslems are over-represented in polygyny in Nigeria, the Ghana data have likewise revealed that Moslems and traditional as well as other religious practitioners are over-represented in polygynous unions. It is believed that because of the religion's acceptance of as many as four wives for males, this practice is commonplace among Moslems. But as Chamie (1986: 64-66) has noted, this is not necessarily the case especially in Islamic societies. The interplay of social change factors such as formal education and western lifestyles have gone a long way in influencing marriage and fertility decisions in those societies. The evidence of reversal in marriage pattern among Moslems has been shown in some studies from certain Islamic countries, (e.g., Turkey) as emanating from a "larger ideological battle for egalitarian gender relations and a modern western way of life" (Duben & Behar, 1991: 157-158).

Just as anticipated from the working data, there are more traditional religious practitioners in polygyny (51.0%) than in monogamy (49.0%). Again this is explicable by their traditional outlook and beliefs. In fact, it shows that polygyny is still functioning as a status symbol as already mentioned, and it appeals to those who can afford it. It is also indicative of either the inaccessibility of social change factors or the persistence of some people in pursuing their old and traditional ways of life.

When the percentage differences in the distribution of women in monogamy and polygyny by religion are computed, the results show that Protestants have the highest representation in monogamy (52.2%), followed by Catholics (49.6%). This is another observation that deviates from the initial prediction of results. Next to Catholics are heathens (22.5%) followed by Moslems (13.8%) and traditionalists (-2.0%). In other words, among the women sampled there are more traditionalists in polygynous marriages than Moslems; there are more Moslems in polygynous marriages than heathens; there are more of their followers in polygyny than Protestants who happen to record the least plural marriage.

The following section is a discussion of the fertility levels of monogamous and polygynous unions, the explanatory variables responsible for variability in fertility and the relationships among these variables.

#### 6.3. Fertility of Wives in Monogamous and Polygynous Unions

Regression of current fertility upon marriage type shows no significant variability in fertility of wives in the two marriage types (p > .05 = .5367) (see Table 6.7). The means for current fertility of monogamy and polygyny are identical (i.e., 1.3 children for each type of marriage) in the 5 years preceding the generation of the data (the *B* for polygyny = -.025117, and the *B* for monogamy = 1.342577). On the other hand, regression of cumulative fertility shows a significant variability in the fertility of wives in the two marriage types.  $R^2 = .01256$ , p < .05 (see Table 6.8).

# Regression of Current Fertility on Marriage Type

Multiple $R =$	.01460				
$R^2 =$	.00021				
Standard E =	.80026				
Independent Variable	В	Beta	Т	Sig T	
Type of Marriage	025117	014601	618	.5367	
(Constant)	1.342577		58.743	.0000	

# Table 6.8

Regression of Cumulative Fertility on Marriage Type

Multiple R =	.11207				
$\mathbf{R}^2 =$	.01256				
Standard E =	2.54196				
Independent Variable	В	Beta	Т	Sig T	
Type of Marriage	.616189	.112073	4.773	.0000	

The R square indicates that about 1% of the observed variability in the fertility of wives can be explained by the type of marriage in which they are. The mean values for

cumulative fertility are 3.7 for monogamy and 4.3 for polygyny (the *B* for monogamy = 3.67, and the *B* for polygyny = .61).

In order to investigate, using Davis and Blake's (1956) theory as a context of reference, whether there are other possible explanatory variables that can account for the differentials, multiple regression is utilized again, whilst simultaneously adjusting for the effects of age at marriage, months of abstinence, and marital duration or years since marriage (see Appendix C). Table 6.9 shows that consequently, the observed difference

# Table 6.9

Multiple Regression of Fertility on Marriage Type, Marital Age, Postpartum

Abstinence	and	Marital	Duration
1 robuitoneo	unu	1/1ui iuu	Duration

Multiple $R =$	.90008			
$\mathbf{R}^2 =$	.81014			
Standard E =	1.05922			
Variables in the Equation	В	Beta	Т	Sig T
Months of abstinence	025710	087061	-7.597	.0000
Age at marriage	.051463	.068172	5.768	.0000
Type of marriage	.062812	.011963	1.040	.2984
Marital duration	.317706	.921859	76.791	.0000
(Constant)	240517		-1.336	.1818

in the fertility of wives seems to disappear and the influence of marriage type on fertility decreases when the confounding influence of abstinence, marital age and marital duration are controlled for (compare the *beta* value of marriage type, .01 given in table 6.9 with the simple bivariate *B*, .61 given in table 6.8). The relationship between fertility and marriage type then becomes statistically insignificant (T = 1.040, p > .05 = .2984) indicating that the initial observed difference in fertility of wives prior to the introduction of the control variables into the explanatory model is fictive and can be explained by the control variables. The T values for marital age (T=5.768, p<.05), abstinence (T=-7.597, p<.05), and marital duration (T= 76.791, p<.05) have also shown that their relationship to fertility is statistically significant. However, a combined explanatory power of the three control variables including the independent variable can account for about 81% of the observed variation in the fertility of women in each type of marriage.

When the independent and control variables are entered into the regression model by stepwise method (see Appendix D), the results reveal that the variable, years since marriage (marital duration), can predict 79% of the variability in fertility of the women; a combination of the variables, marital duration and months of abstinence, can predict 80% of the variability in fertility; and a combination of both plus age at marriage can explain 81% of the variation in the fertility of the women.

Another observation that has come to light is that the direction of the relationship between fertility, on one hand, and the control variables, on the other, is positive except for months of abstinence. This means that the number of children the women have increases with the women's age at marriage and number of years in marriage but decreases with months of postpartum abstinence.

As far as the variable age at marriage is concerned, the fertility value is usually assumed to be positive, but as aptly explained by Davis and Blake (1956), no matter how favourable marital age is to fertility, the former is in itself affected by other factors such as conception and gestation. This implies that even though a union may begin at an early age, high fertility could be prevented through other preventive measures such as contraception, and abortion. Therefore, early entry into unions may not necessarily result in a large number of children. In fact, evidence from the Ghanaian data shows that marital age of women in monogamous unions is almost at par with that of women in polygynous unions, (i.e., age 18). But the mean number of births at any maternal age of women cohorts in polygyny tend to be higher than that of women cohorts in monogamy as summarized in Table 6.10.

#### Table 6.10

# Mean Total Children Ever born by Marriage Type

Marriage Type	Maternal Age				
	0-19yrs.	20-24yrs.	25-29yrs.	30+yrs.	Total
Monogamy	4.05	3.19	2.21	2.91	3.66
Polygyny	4.64	3.77	4.08	3.20	4.29

and Maternal Age

The present finding with regard to age at marriage appears to be in harmony with Davis and Blake's conjecture that age at marriage is in itself influenced by other factors such as contraception and gestation. The logic of higher fertility for longer marital duration as discovered in this data cannot be overemphasized; so is the inverse association between longer abstinence and lower fertility.

In general, the Ghanaian data support the hypothesis that there is no difference in the fertility of women in the two types of union. The initial observed difference when the intermediate variables were not introduced into the model is due to chance factors. What it means is that the variability in the fertility of wives cannot be attributed to being in monogamous or polygynous unions per se, but rather to the obscured conditions and corollary fertility characteristics of each type of marriage. The significance of these hidden or intermediate factors lies in the fact that the difference in fertility disappears when the former are introduced into the test model.

#### 6.4. Intermediate Variables and Fertility

An attempt has been made to shift attention from the general discussion to the specific intermediate variables by presenting below the scores on these explanatory variables for the wives in monogamy and polygyny for comparison purposes.

The average age at marriage is similar for wives in both types of union but since women in polygynous unions record higher cumulative fertility, it is possible that they practice less parity-specific fertility than their counterparts do. In other words, wives in monogamous marriages are more likely to practice contraception and give birth later than do wives in polygynous marriages. Another explanation for differential fertility is marital duration, which is longer for wives in polygynous unions as will be seen later.

The average years since marriage is higher for women in polygynous marriages (13 years) than for women in monogamous marriages (11 years). This undoubtedly will have an impact on the number of children recorded for each type of marriage. Since marital duration is positively correlated with fertility, it is not surprising that the sample women in polygynous unions have achieved higher average cumulative fertility; and since wives in polygyny remain married longer than wives in monogamy, they practically maximize their potentials hence achieving higher fertility in the long run.

Postpartum abstinence is also more for women in polygynous marriages (11 months) than for women in monogamous marriages (9 months) which presupposes that women in monogamous marriages should have more children than women in polygynous marriages since postpartum abstinence is inversely related to fertility. But evidence from the data contradicts this assumption. One factor that probably can explain this trend is the positive attitude held by women in monogamy towards fertility limitation measures. For example, in the GDHS, a question was asked on the use of modern contraceptive methods. Over sixty percent (60.8%) of wives in monogamy have never used any contraception as compared with 68.4% of wives in polygyny who have never used any method. However, 24.1% of wives in monogamy claim to have ever used modern methods as compared with 18.5% of wives in polygyny. In other words, more wives of monogamists have used modern methods of contraception than wives of polygynists. This

information will probably explain why wives in polygyny record higher fertility than wives in monogamy in spite of the former's longer postpartum abstinence.

Marital duration seems to be the most important explanatory variable in this study as established by the stepwise regression technique (see appendix D) utilized in this analysis. The method identified the set of variables that is useful in predicting fertility of the sample women which turns out to be marital duration, abstinence and marital age in that order. Marriage type is eliminated from the model because it does not provide any additional prediction or information, given that basic set. The importance of marital duration is evidently clear in the differential fertility that is observed when cumulative fertility is measured and taken into account.

#### 6.5. Socio-economic Factors and Fertility

To investigate further other possible explanations for the initially observed differential fertility, the four socio-economic correlates of marriage type mentioned earlier on, viz.: education, occupation, religion and place of residence have also been controlled for. A dummy regression of fertility on marriage type and education has shown that about 8% of the variation in the fertility of wives can be explained by marriage type and education ( $\mathbb{R}^2 = .09$ ) as against those without any education. The slopes for primary and secondary or higher education are negative indicating an inverse association between fertility and education (see Table 6.11).

The influence of marriage type on fertility decreases (from B=.34 to beta=.06) (see Appendix E) when the combined influence of the categories of education are
adjusted for, and the association between fertility and education becomes significant (p < .05). The influence of the control variables and marriage type are reflected in their *Bs*.

# Table 6.11

Dummy Variable Regression of Cumulative Fertility on Education

Multiple $R =$	.29283			-
$\mathbf{R}^2 =$	.08575			
Standard E =	2.44731			
Variables in the Equation	В	Т	Sig T	
Secondary or Higher	-2.252348	-8.549	.0000	
Type of marriage	.342561	2.710	.0068	
Primary	-1.221730	-10.129	.0000	
(Constant)	4.432956	45.875	.0000	

coefficients: Secondary or Higher level of education=-2.25, Primary=-1.22, Marriage Type=.34. The mean score on fertility for the reference category (wives with no formal education) is 4.43. The preceding information indicates that education of women can predict fertility better than the type of marriage in which they are found.

Approximately 1% of the variation in fertility of women is explained by type of marriage and wives' occupation ( $\mathbb{R}^2 = .02$ ) as shown in Table 6.12. With the exception

of women working in service occupations and manual jobs, the other categories, viz., professional, technical and managerial; clerical and sales; and agricultural workers have not shown any significant influence on the fertility of women. In fact, when these categories were controlled for, the association between marriage type and fertility on one hand and services/manual occupations and fertility type on the other remain significant (p < .05), whereas the rest of the controlled categories show insignificant associations (p > .05) as shown in the table 6.12. The predictive power of the variables in the equation can be presented in a descending order as follows: Marriage type (B=.61,

### Table 6.12

Dummy Variable Regression of Cumulative Fertility on Occupation

Multiple $R =$	.12510			
$R^2 =$	.01565			
Standard E =	2.54222			
Variables in the Equation	В	Т	Sig T	
Services/manual	.613869	2.007	.0449	
Type of marriage	.6099463	4.707	.0000	
Agricultural	122485	808	.4190	
Prof./Tech./Mana.	569755	-1.670	.0950	
Clerical/Sales	.073217	.186	.8525	
(Constant)	3.692510	45.872	.0000	

p < .05), Services/manual (B = .61, p = .0449), Prof./Tech./Mana.(B = ..57, p = .0950), Agricultural occupations (B = ..12, p = .4190), Clerical/sales (B = .07, p = .8525). In view of this, it appears that generally, marriage type is a better predictor of fertility than women's occupation. In any event, each of the observations is compared with the reference category "no occupation" that predicts 3.7 of the fertility of wives.

Similarly, marriage type seems to be a better predictor of fertility than religion. From Table 6.13, the influence of marriage type on fertility (B=.56, p<.05) is bigger

### Table 6.13

Dummy Variable Regression of Cumulative Fertility on Religion

Multiple $R =$	.12389					
$\mathbf{R}^2 =$	.01535					
Standard E =	2.54121	2.54121				
Variables in the Equation	В	Т	Sig T			
Traditional/other	.098661	.633	.5271			
Type of marriage	.559217	4.230	.0000			
Protestant	122438	-1.152	.2494			
Catholic	148821	-1.065	.2871			
Moslem	.252705	1.685	.0921			
(Constant)	3.725714	40.012	.0000			

than those of the religious categories: Moslem (B=.25, p=.0921), Catholic (B=.15, p=.2871), Protestant (B=.12, p=.2494), and traditional practitioners (B=.10, p=.5271). All the categories of religion show insignificant relationships to fertility, whereas type of marriage does not. Catholic and Protestant categories show negative association with fertility but Traditional and Moslem show positive association with fertility. However, about 1% of wives' fertility can be explained by both marriage type and religion. The reference category, i.e., no religion, records a mean score of 3.7 as reflected in the intercept.

A dummy regression of fertility on marriage type and place of residence shows that only 1% of the difference in fertility of wives can be explained by marriage type and place of residence (see Appendix H). The association between urban residence and fertility is negative meaning that urban residence can have a decreasing influence on the number of children born to wives. When urban residence is controlled for, the association between fertility and marriage type remains significant (p < .05) but no significant association is found between fertility and urban residence (p > .05 = .1250). The slope for urban residence is -.20 which is the difference in the effect of urban and rural residence (Constant=3.7) and the slope for marriage type is .60. It shows that there is hardly any difference in the effects of urban and rural residence. Therefore, marriage type can predict fertility better than place of residence.

In summation, the preceding analysis indicates that aside from education, marriage type is a better predictor of fertility than occupation, religion and place of residence even though they all are related, to a certain degree, to fertility. Education is shown to be the one social institution that seems to influence fertility more than the four social factors involved in this research.

On the whole, it has been discovered that the findings arrived at after testing the Ghanaian data do support the null hypothesis that there is no difference between the fertility of wives in monogamous and polygynous unions when other factors, viz.: age at marriage, postpartum abstinence, and marital duration are adjusted for. It could be argued that type of marriage has an indirect and weak association with fertility since this association is removed upon the introduction of marital age, abstinence and marital duration. This means that the number of children wives have does not necessarily depend on the type of union in which they are. It is contingent more on their fertility attitudes and behaviours. Marriage type serves only as the cultural arena in which these fertility attitudes and behaviours come into play. It represents the conditioning factor which may shape wives' outlook and beliefs systems, and which may in turn influence their fertilityrelated activities or behaviours. Therefore, it is these fertility-related behaviours otherwise known as proximate determinants that come closer to explaining the immediate causes of fertility. It does not matter much whether a woman is in monogamy or polygyny, but what matters is how relevant these demographic factors are in her life.

The investigation has also revealed that education can have an influence on women's fertility. Whether a woman is in polygynous marriage or not her fertility performance relies, to some extent, on her educational background. Women's fertility levels relate inversely to their level of education. In other words, the conjecture is that the number of children born to women decreases with increasing level of education. Thus one might expect those women with no formal education to achieve the highest fertility in their lifetime.

However, with reference to Davis and Blake's (1956) fertility theory, the influence of education on fertility must necessarily act via any of the afore-mentioned proximate determinants of fertility. This constitutes another set of relationships that calls for further inquiry. But it is not within the scope of this study to do that.

# **CHAPTER SEVEN**

# SUMMARY AND CONCLUSION

This brief chapter summarizes the most important discoveries in the analysis. It is a means of underscoring the most salient points in the discussions presented in the preceding chapters.

The motivations behind the present study are the conflicting findings concerning the influence of marriage type on fertility and the lack of related studies on Ghana. The central problem that has been addressed is methodological. This work is an effort to ascertain the fertility levels of women in uninterrupted monogamous and polygynous marriages by employing both current and retrospective measures, and by removing the influence of sterility. Additionally, the task of this investigation includes measuring polygyny, which has attracted much attention over the years, and a discussion of the socio-economic correlates of monogamous and polygynous marriages.

The GDHS (1988) data used in the study have provided evidence to show that Ghanaian society is characterized by general polygyny even though the phenomenon is on the decrease. Generally, the average age at marriage for women and men in Ghana is 18 and 27 years respectively, indicating that women marry earlier than men. The observed disparity is attributable to and indicative of the economic independence and preparedness that a man needs to attain before entering matrimony.

The Pearson Chi square test for the relationship between socio-economic status of women and type of marriage they enter reveals that education, religion and place of residence do have significant links with type of marriage, but occupation does not. Women, irrespective of their occupations, could be found in either monogamy or polygyny as may appeal to them indicating that occupation is not a good predictor of the type of marriage women enter in the Ghanaian case. On the contrary, the other socioeconomic correlates are marriage type selective. For instance, it has been revealed by the data that higher educated women are over-represented in monogamy whereas illiterates are over-represented in polygyny. Moslems, traditional practitioners and those who have no religious affiliation are over-represented in polygyny but Protestants, and Catholics have more of their members in monogamy than in polygyny. Rural residents are more likely than urban residents to enter polygynous marriages, i.e., more urban residents are found in monogamy than in polygyny, and more rural residents are found in polygyny than in monogamy.

Another important piece of evidence from the data shows that long-term fertility is higher for wives in polygynous unions than their counterparts in monogamous unions, but current fertility measure shows no difference. The observed cumulative fertility differential has been proved unreal when control variables - marital age, postpartum abstinence, and marital duration - were introduced into the test model. In this case, the association between marriage type and fertility disappeared. Thus these control variables, and indeed any of Davis and Blake's (1954) intermediate variables, mediate between marriage type and fertility. This finding confirms their hypothesis that any social structure does not relate directly to fertility but does so through one or more of their afore-mentioned eleven variables. The lessons gathered from this study can be epitomized as follows: Even though there seems to be a relationship between marriage type and fertility, it is a rather weak one. The differentials in fertility by marriage type found by numerous studies are mainly due to proximate determinants of fertility rather than merely being in monogamy versus polygyny. This has been confirmed by the present study. Therefore, it will be unwise to explain women's fertility just by the type of union in which they are found.

In view of this, it is suggested that such studies in the future should not lose sight of demographic variables that seem to be directly and closely related to fertility. In fact, evidence from Africa has shown that the relationship between social structure and fertility can be deceptive. For instance, theoretically, socio-economic status is believed to correlate negatively with fertility but this is not always true in the African context. Ukaegbu (1981: 134) for example has quoted some University professors in Nigeria who left no stone unturned to have sons because of customary demands for male survivors. One ended up producing eight daughters in the attempt to have at least one son (hence increasing the number of children in his household). Ukaegbu (1981) also recalls two medical officers in Nigeria who, failing to have sons from their first (previous) Christian marriages, had to marry second wives. These are some of the examples of beliefs, attitudes and behaviours relating to fertility that may make the study of the relationship between marriage type and fertility in Africa not an easy one to characterize. This point leads to a further suggestion that research into fertility especially in Africa should also bring into focus the attitudes and motivations of husbands and not wives alone as well as the cultural dimensions.

In conclusion, it must be emphasized that, looking at marriage type alone to predict fertility is inadequate. A meaningful explanation may require interdisciplinary efforts in which the focus is not only on demographic variables but also on attitudes and reasons behind these attitudes. This means that all social scientists including sociologists, anthropologists, historians, demographers and economists should cooperate in such inquiries as suggested by Ukaegbu (1981).

Finally, the findings of this study may be of some importance to policy makers who are concerned with fertility limitation measures. The study has confirmed some of the mechanisms via which either high or low fertility may be achieved. It is, therefore, suggested that fertility control policies could target these intermediate mechanisms as well as relevant social institutions such as education. This seems to be the main policy implication that is contained in the findings of the current study.

# APPENDICES

# APPENDIX A

# REGRESSION OF CURRENT FERTILITY ON TYPE OF MARRIAGE

Dependent Variable.. V208

Births in last five years

1.. V505 Type of Marriage

Multiple R	.01460	Analysi	s of Vari	ance	
R Square	.00021		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	00036	Regres.	1	.24459	.24459
Standard E	.80026	Resid.	1791	1146.97460	.64041
	F = .38192		Sig F =	.5367	

----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
V505	025117	.040643	014601	618	.5367
(Constant)	1.342577	.022855		58.743	.0000

# APPENDIX B

# REGRESSION OF CUMULATIVE FERTILITY ON TYPE OF MARRIAGE

Dependent Variable .. V201 Total children ever born

1.. V505 Type of Marriage

Multiple R	.11207	Analysi	s of Vari	ance	
R Square	.01256		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.01201	Regres.	1	147.20461	147.20461
Standard E	2.54196	Resid.	1791	11572.67046	6.46157
	F = 22.78156		Sig F =	.0000	

----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
V505	.616189	.129099	.112073	4.773	.0000
(Constant)	3.671289	.072598		50.570	.0000

# APPENDIX C

# MULTIPLE REGRESSION OF CUMULATIVE FERTILITY

Dependent Variable.. V201 Total children ever born

1M9\$01	Months of abstinence
2V511	Age at marriage
3V5O5	Type of Marriage
4V512	Years since marriage

Multiple R	.90008	Analysi	s of Var	iance	
R Square	.81014		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.80962	Regres.	4	7080.45947	1770.11487
Standard E.	1.05922	Resid.	1479	1659.36465	1.12195
	F = 1577.7122	2		Signif. F = .0000	

		Variables in the Equation					
Variable	В	SE B	Beta	Т	Sig T		
M9\$01	025710	.003384	087061	-7.597	.0000		
V511	.051463	.008922	.068172	5.768	.0000		
V505	.062812	.060388	.011963	1.040	.2984		
V512	.317706	.004137	.921859	76.791	.0000		
(Constant)	240517	.180043		-1.336	.1818		

All requested variables entered

# APPENDIX D

# MULTIPLE REGRESSION-STEPWISE

Dependent Variable.. V201 Total children ever born

Number 1.. V512 Years since marriage

Multiple R	.89342	Analysis of Variance			
R Square	.79820		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.79806	Regres.	1	6976.09727	6976.09727
Standard E.	1.09092	Resid.	1482	1763.72685	1.19010
	F = 5861.77851	l	Signif F	V = .0000	

----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
V512	.307904	.004022	.893418	76.562	.0000
(Constant)	.542141	.050135		10.814	.0000
		Variables	not in the Equation	n	
Variable				Т	Sig T
V505				.777	.4375
V511				5.817	.0000
M9\$01				-7.519	.0000

\*\*\*\*\*\*

Number 2	M9\$01 Months	of abstir	nence		
Multiple R	.89756	Analysi	s of Vari	ance	
R Square	.80562		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.80536	Regres.	2	7040.94773	3520.47386
Standard E.	1.07103	Resid.	1481	1698.87640	1.14711
	F = 3068.98242	2	Signif F	S = .0000	

	Variables in the Equation					
Variable	В	SE B	Beta	Т	Sig T	
V512	.311744	.003981	.904560	78.304	.0000	
M9\$01	025650	.003411	086858	-7.519	.0000	
(Constant)	.758693	.057028		13.304	.0000	

----- Variables not in the Equation ------

Variable	Т	Sig T
V512	1.380	.1679
M9\$01	5.842	.0000

#### \*\*\*\*\*

Number 3	V511 Age at 1	marriage			
Multiple R	.90000	Analysi	s of Vari	ance	
R Square	.81000		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.80961	Regres.	3	7079.24564	2359.74855
Standard E.	1.05925	Resid.	1480	1660.57849	1.12201
	F = 2103.13928	3	Signif F	F = .0000	

# ----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
V512	.318320	.004095	.923640	77.731	.0000
M9\$01	025434	.003374	086125	-7.538	.0000
V511	.052029	.008905	.068922	5.842	.0000
(Constant)	240271	.180048		-1.334	.1823

------ Variables not in the Equation ------

Variable	Т	Sig T
V505	1.040	.2984

# APPENDIX E

# DUMMY VARIABLE REGRESSION: EDUCATION

Dependent Variable.. V201 Total children ever born

1.. Dummy2 Secondary or Higher

2.. V505 Type of Marriage

3.. Dummy1 Primary

Multiple R	.29283	Analysis of Vari	ance		
R Square	.08575		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.08422	Regression	3	1005.00602	335.00201
Standard E	2.44731	Residual	1789	10714.86905	5.98931
	F = 55.93336		Signif $F = .0000$		

	Variables	in the	Equation	
--	-----------	--------	----------	--

Variable	В	SE B	Beta	Т	Sig T
Dummy2	-2.252348	.263452	199289	-8.549	.0000
V505	.342561	.126411	.062305	2.710	.0068
Dummy1	-1.221730	.120621	237868	-10.129	.0000
(Constant)	4.432956	.096632		45.875	.0000

### APPENDIX F

### DUMMY VARIABLE REGRESSION: OCCUPATION

Dependent Variable.. V201 Total children ever born

- 1.. Dummy4 Services/manual
- 2.. V505 Type of Marriage
- 3.. Dummy3 Agricultural employees
- 4.. Dummy1 Prof., Tech., Mana.
- 5.. Dummy2 Clerical/Sales

Multiple R	.12510	Analysis of Vari	ance		
R Square	.01565		DF	Sum of Squares	Mean Square
Adjusted R <sup>2</sup>	.01289	Regression	5	183.22117	36.64423
Standard E	2.54222	Residual	1783	11523.32321	6.46288
		F = 5.66996	Signif F	.0000	

# ----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
Dummy4	.613869	.305925	.572214	2.007	.0449
V505	.609463	.129474	.110697	4.707	.0000
Dummy3	122485	.151525	112936	808	.4190
Dummy1	569755	.341082	531350	-1.670	.0950
Dummy2	.073217	.393634	.068325	.186	.8525
(Constant)	3.692510	.080496		45.872	.0000

# APPENDIX G

# DUMMY VARIABLE REGRESSION: RELIGION

Dependent Variable.. V201 Total children ever born

- 1.. Dummy4 Traditional/other
- 2.. V505 Type of marriage
- 3.. Dummy2 Protestant
- 4.. Dummy1 Catholic
- 5.. Dummy3 Moslem

Multiple R	.12389	Analysis of Variance				
R Square	.01535		DF	Sum of Squares	Mean Square	
Adjusted R <sup>2</sup>	.01259	Regression	5	179.87713	35.97543	
Standard E	2.54121	Residual	1787	11539.99794	6.45775	
		F = 5.57089		Signif $F = .000$	0	

# ----- Variables in the Equation ------

Variable	В	SE B	Beta	Т	Sig T
Dummy4	.098661	.155983	.017116	.633	.5271
V505	.559217	.132191	.101710	4.230	.0000
Dummy2	122438	.106267	027652	-1.152	.2494
Dummy 1	-148821	.139756	027757	-1.065	.2871
Dummy3	.252705	.149939	.044824	1.685	.0921
(Constant)	3.725714	.093115		40.012	.0000

### APPENDIX H

# DUMMY VARIABLE REGRESSION: PLACE OF RESIDENCE

Dependent Variable.. V201 Total children ever born

1.. Dummy1 Urban

2.. V505 Type of marriage

Multiple R	.11772	Analysis of Variance				
R Square	.01386		DF	Sum of Squares	Mean Square	
Adjusted R <sup>2</sup>	0.1276	Regression	2	162.41597	81.20799	
Standard E	2.54100	Residual	1790	11557.45910	6.45668	
		F = 12.57736		Signif $F = .0000$		

----- Variables in the Equation -----

Variable	В	SE B	Beta	Т	Sig T
Dummy1	202457	.131902	036193	-1.535	.1250
V505	.597102	.129648	.108601	4.606	.0000
(Constant)	3.737508	.084426		44.270	.0000

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