The Impacts of Gender Attitudes and Socio-Economic Determinants on Ideal Fertility: A Study among Young Men in Ghana

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Dedication

This thesis is dedicated my ever loving brother -Shantha Deshapriya Meewlaarachchi who has passed away while I was composing this.

(Whose memories sneaking out of my eyes and rolling down my cheeks to key-board)

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LIST OF ABBREVIATIONS

ABCD	Assets Based Community Development
ATT-IPV	Attitudes about IPV Scale
CEB	Children Ever Born
CFR	Code of Federal Regulations
DHS	Department Of Health And Human Services
FP	Family Planning
GDHS	Ghana Demographic and Health Survey
GDP	Gross Domestic Product
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HP	Health Promotion
ICPD	International Conference on Population and Development
IPPF	International Planned Parenthood Federation
IPV	Intimate Partner Violence
IRB.	International Institutional Review Board
KAP	Knowledge Attitudes and Practices
MDGS	Millennium Development Goals
NPC	The National Population Council
NPHRL	National Public Health Reference Laboratory
PD	Positive Deviance
PHC	Primary Health Care
PPAG	Planned Parenthood Association Of Ghana
Sags	Sustainable Development Goals
SEC	Socio-Economic Factors
SPSS	Statistical Package For The Social Sciences
SRH	Sexual And Reproductive Health
STI	Sexually Transmitted Infections
T-D-I-B	Traits-Desires- Intentions- Behavior
TFR	Total Fertility Rate
TPB	Theory Of Planned Behavior
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNDP	United Nations Development Program
VIF	Variance Inflation Factor
WFS	World Food Survey Programme
WHO	World Health Organization

ABSTRACT

Introduction

Fertility is one of most important factors of demographic studies; alarming Total Fertility Rate (TFR) threatens developing indicators in many ways. Gender equality, child and infant mortality, achieving of universal education, higher incidence of AIDS/HIV and environmental sustainability are few of them. Ghana has experienced a greater decline in fertility rate than any other country in West Africa, and drawn special interest of policy-makers and demographers. Even though Ghana has a rapid decline in fertility, it still needs a high attention, due to the mismatched causality between fertility decline and fertility theories. However, the low rate of fertility in Ghana has not contributed to slower population growth due to the "demographic deficit", and the age structure shows population momentum. This phenomenon has hit the Ghanaian economy very severely and may subject a society to potentially disruptive, political and social movements due to an increased burden on higher education, proper housing, the labor market pressure and sexual health.

Many studies have been carried out in Ghana in order to confirm the most efficient methods to control fertility rates. Of all contributing factors, men's dominance plays the vital role in family planning. However, little explored are the ways in which men's dominance in fertility decisions is associated with Socio- Economic (SEC) factors and gender attitudes. If family planing agendas are to succeed, they should recognize the male role and and its power. Understanding of the SEC characteristics and gender roles of future potential parents (young men) who have the fertility aspirations of the ideal number of children is essential, as it would help in achieving expected TFR in Ghana.

Research Objectives& Research Questions

The study had two research questions. *1. What are the determinants of low fertility ideals among young men in Ghana?2 .What is the association between characteristics of young men in Ghana in describing potentially related fertility aspirations and how well they are associated with ideal family size?.* In order to answer the research questions, the three research objectives were established. (1).To assess the (SEC) determinants of positive deviants)[1], (2) To assess the gender attitudes of the positive deviants, and (3) To examine the

[1] Meaning of the term will be clarified in chapter 4

value of the characteristics of young men in Ghana in describing potentially related fertility aspirations and test how well they are associated with ideal family size. When considering fertility ideals in Ghana, positive deviants can be defined as *young men who have no children yet whose fertility ideals are between 1 and 3 children.* The rationale for selecting young men is that they have the potential to define gender roles and they are potential parents.

Theoretical and Conceptual Frameworks

This study adapted the Positive Deviance (PD) approach in order to answer research questions 1 and 2 and adapted the T-D-I-B (Traits-Desires-Intentions-Behaviors) model that was developed by W.B. Miller (1992; 2011, 2012) based on Theory of Planned Behavior (TPB) in order to address the third research question. This study referred to the dependent variable as men's fertility intention, while recognizing that it includes elements of both desires and intentions. Among the many factors affecting fertility outcomes, this study concentrated on two main background characteristics, i.e. (1) gender attitudes and (2) SEC factors.

Methodology

This study employed the PD approach for identifying the gender and SEC determinants of the positive deviants. Logistic regression was performed to assess the impact of a number of factors on two types of fertility ideals of young men (referred to as positive and non-positive deviants). The model contained 13 independent variables divided into two main groups (Gender attitude and SEC determinants; educational achievement, age, working status, occupational group, religion, marital status, wealth index, ethnicity, region, position in the household, sex of the household head and type of place of residence. Analysis was performed using SPSS logistic version 23. This study used secondary data from the latest GDHS in 2014 that comprises a wide range of variables and a larger sample size that helped generalization of the results.

Findings and Discussion

The majority of the positive deviants were young, urban residents, lived in Greater Accra, had Pentecostal charismatic religious affiliations, and had Akan ethnicity. They had partially or fully completed secondary level or higher education, belonged to richer households (not the richest), had never been married or entered into union, lived in a household with a male

household head, and were usually the son of the family. Most were working in a comparatively high status and skilled job in the agricultural sector. Most importantly, the vast majority never justified wife beating; in other words, they never accepted intimate partner violence (IPV) for any reason.

The final model containing all predictors was statistically significant, $\chi 2$ (16, N = 1391) = 219.77, p < .001, (95%) indicating that the model was able to distinguish between respondents who were positive and non-positive deviants. The model as a whole explained between 14.6% (Cox and Snell R square) and 20.2% (Nagelkerke R squared) of the variance in fertility ideals and, correctly classified 65.3% of cases, all predictors were significant; therefore, the study was able to reject the null hypothesis.

Conclusions

The research revealed that gender attitude, wealth index, region, religion, positions in the household, sex of the household head, and level of education were statistically significantly associated to fertility ideals. The other predictors of fertility ideals that were not statistically significant were: respondent's age, working status, occupational group, type of place of residence, ethnicity, and marital status, not included in the final model. The variance explained by the statistical model was mostly significant. Although the seven aforementioned predictors were significant, they do not reveal much about what differentiates fertility ideals among young men in Ghana. This thesis supported the results from prior literature that fertility intentions are associated with the ideal family size. Ghanaian demographers and policy makers must address gender attitudes of the young population and characteristics of the positive deviants if they wish to reduce fertility rates in Ghana.

Key Words: *Ideal Fertility, Positive Deviance, Gender Attitude, Intimate Partner Violence, Ghana, Socio–Economic Determinants, Young men, Family Planning.*

CHAPTER 1
INTRODUCTION

1.1 Background

"Demography is the story of people"(Canning, Raja, & Yazbeck, 2015, p. 43), since "whether not to have another child is an important decision, both from a personal and national point of view" (Whelpton, Campbell, & Patterson, 1966, p. v). Better understanding of this this story defines the size and the structure of the population in a particular country as well provides an opportunity to create the best policy environment that leads to reap the maximum advantage of a country's demographic potentiality (Canning et al., 2015). Therefore, fertility is perhaps the most comprehensive theoretical foundation of the three main concepts[2] in demography and "is a social phenomenon: emerging from the aggregation of individual life events, to a great extent socially determined and with profound social consequences" (Bart & De Bruijin, 2006, p.549).

"Fertility' refers to performance and the bearing and timing of live births", focuses on the two interrelated terms; the tempo (or timing) of childbearing and the actual number of children (Mills, Tropf, & Sociology/Ics, 2015, p.399). When considered the factors influencing fertility the study requires a clear distinction between two classes of determinants; proximate variables: biological factors (contraception, age at marriage, etc.) and socio economic (SEC) (education, wealth etc.) and environment variables (Bongaarts, Frank, & Lesthaeghe, 1984). SEC factors can have negative or positive affect on fertility by moderating proximate variables, for instance; level of education affects duration of breastfeeding (Bongaarts et al., 1984). (See the Appendix 1 for the list of proximate variables). Total Fertility Rate (TFR) is defined as "The average number of children that would be born alive to a woman (or group of women) during her lifetime, if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year[3]" (Gale,. 2008) and used as the measurement of fertility.

[2] Two other concepts of demography are listed as -mortality and migration (Bart & Bruiji, 2006).

[3] The childbearing years are generally defined as 15-49, by conforming to the fertility rates by age of a given year. It is computed by adding the fertility rates by age for women in a given year (the number of women at each age is assumed to be the same, i.e. mortality is assumed to be zero during the child-bearing period) (Gale,. 2008).

Expired Millennium Development Goals (MDGs) focused to curb population growth in developing countries, since "Three out of eight goals are directly linked to sexual and reproductive health (SRH) " (Baba Musah & Mavis, 2013, p. 88), and has "potential to reduce poverty and hunger , avert 32% of all maternal deaths and nearly 10% of childhood deaths" (Cleland et al., 2006, p.1). Uncontrolled fertility leads to poverty at both the national and international levels (Olatoregun, Fagbamigbe, Akinyemi, Yusuf, & Bamgboye, 2014, p.1-3). More over the long-term benefits associated with a decline in fertility rates are numerous, for instance; women's empowerment, achievement of universal primary schooling, and environmental sustainability (Baba Musah & Mavis, 2013; Okonofua, 2014).

However, the MDGs in Africa were attracted numerous debates and controversies due to its alarming population growth. For instance; the 1990-2013 period witnessed a slow growth of Family Planning (FP) indicators in Africa, (Okonofua, 2014). "There is a call for new approaches to address gaps in FP provision and access in Africa" (p. 9). MDGs effort have been virtually unanimous, that Sub-Saharan Africa stands out in that it will not meet any of the goals, and Africa look worse than it really is" (Easterly, 2009, p.26). "Despite the size of this unfinished agenda, international funding and promotion of FP has waned in the past decade: "a revitalization of the agenda is urgently needed" (Bart & De Bruiji, 2006 p.1).

Finally, "the year of reckoning" arrived in 2015 (Taylor et al., 2014) where "..Countries have largely paid lip service to achieving the MDGs" (p. 9). "Progress towards achieving the eight MDGs in African countries is marginal at best and poor at worst" (p. 5). Regarding the issue of reproductive health, there is significant unmet need with respect to FP, as this has decreased in sub-Saharan Africa but still remains problematic. The UN has admitted and declared that MDGs remain off track in tackling reproductive health (UN, 2015). Given the lack of progress in this area, world leaders again signed off new Sustainable Development Goals (SDGs), which came into effect in January 2016. The "SDGs[4] target three aims to ensure universal access to SRH care services (Target 3.7) and one indicator is the fertility rate of adolescent women (ages 15–19)" (World bank 2016, p.6).

[4] countries adopted the 2030 Agenda for Sustainable Development and its 17 SDGs.

The question is why has Africa failed to achieve MDGs related to reproductive health indicators? Furthermore, why does this study strongly emphasize failed MDGs? This is important because fertility control is crucial in achieving development of the other indicators. The SDGs must not repeat the MDGs' mistakes and African governments need to learn from unfinished business of the MDGs. Taylor *et al.* (2014, p.10) emphasized that demographic reality was the main challenge for not achieving MDGs as "the demographic reality of the youth bulge[5] whereby young people between the ages of 15 and 24 years comprise over 40 % of the population which makes the challenge of meeting the MDGs."(p.10). In summary, the issue of uncontrolled fertility rates is the subject of continual debate in sub-Saharan Africa in achieving development goals, and this is certainly the case for Ghana.

1.2 Overview of the Problem and Problem Statement.

This section reviewed the problem of the study by presenting a sequence of precise questions to reveal the research gap, which was filled by this study.

1.2.1 Africa Shows The Highest TFR Compared To Other Developing Countries.

Africa has a higher fertility rate compared to other developing countries, which creates significant economic challenges. The world population growth rate declines, but African rates decline more slowly (Kwankye, 2016). Africa represents 11% of the world's population but is responsible for "more than half have all maternal and child deaths, two thirds of the global AIDS burden." (Taylor et al., 2014, p.vii). Ghana has a population of approximately 27 million and TFR was recorded as 4.06 in 2016 and the median age is 20.7 (CIA, 2017).

1.2.2 Ghana Has a Rapid Decline in Fertility Rate Compared To Neighboring Countries.

Ghana has experienced a greater decline in fertility rate than any other country in West Africa, With a TFR of 4.0 in 2008, (one of reasons can be a high rate of abortions (Kwankye, 2016) and "Ghana is seen as having achieved its fertility target of 4.0 TFR, two years before the target year 2010" (DHS Ghana, 2009, p.xxi). This record has made "Ghana apparently the vanguard country in the region and of special interest to policy-makers and researchers"(Agyei-Mensah, 2006, p. 462).

[5] The "youth bulge" is a result of the cohort of young people and prime-aged adults increasing at an alarming rate (Taylor et al., 2014, p 140) .

1.2.3 *Even Though Ghana Has a Rapid Decline in Fertility, It Still Needs Urgent Attention, Why?*

It is notable that in Ghana the low rate of fertility has not contributed to slower population growth due to the "demographic deficit". As Gaisie (2007, p.16) explains "leading large number of births even when fertility rates are low" and exactly this is happening in Ghana related to the age structure and called as "population momentum". For instance; Japan has been kept growing its population 47 years after it reached replacement level of fertility in 1957 (Gaisie, 2007). Therefore Ghana would be accompanied population growth even it will reach low fertility rate.

Additionally, the age structure of Ghana has an expansive pyramid shape, with a broad base and a narrow top. The recent fertility decline has not contributed to a significant reduction in the dependency burden nor will it do for many years due to the 'Young Bulge'[6]'. This phenomenon has hit the Ghanaian economy very severely due to an increased burden on higher education, proper housing, and the labor market pressure. Gaise (2007) has pressured authorities to find quick solutions for victims of the SRH services including prompt investigation of risky and protective behaviors associated with HIV/AIDS, which has really highlighted considerable problems in education and sexual health.

The majority of HIV /AIDS burden young people (15-25) are reported from in sub Saharan Africa[7] (Aaro et al., 2014; Namisi et al., 2013). Also Taylor et al., (2014) posits as " SRH became a challenge as many young people become vulnerable to sexual exploitation, teen pregnancy, early marriage, illegal abortions, unsafe rite of passage cultural practices, and sexually transmitted infections (STI) and HIV/AIDS, and "this phenomenon may subject a society to potentially disruptive, political and social movements (p. 10).

Likewise, Ghana encounters the same economic , social, cultural and poltical problems faced

[6] The proportion increased from 18.7 per cent in 1960 to nearly 19 per cent in 2000 and, it is estimated to climb up to 20 per cent in 2020. A situation in which 20 per cent or more of a population is aged between 15-24 years has been described as "Young Bulge" (Gaisie, 2013, p. 19).See the Appendix 2- The population of adolescents and young adults (15-24) years old in Ghana.

[7] In 2008, 76 % of young people in the world who lived with AIDS found in Sub-Saharan Africa. (number is 5 million) as cited by (Namisi et al., 2013, p.2)

by other developing countries due to high fertility rates. Olatoregun *et al.*, note that "Nigeria and Ghana are countries that have been ravaged by economic challenges, which result in decreasing per capita income annually 15-16%" (2014, p.37) and they recommend that, since the majority of Ghanaians live in extreme poverty, "government and non-governmental agencies should embark on public enlightenment campaigns to create awareness of the importance of fertility control", if not it "could constitute a significant problem in society". Additionally, higher TFR has a clear correlation with increased competition and conflicts for natural resources in a particular country, such as land, water etc.

1.2.4 The Causality Between Fertility Decline In Ghana And Fertility Theories Is Mismatched

The fertility control[8] methods, which adapted all other developing nations didn't fruitful in Ghana (Kwankye, 2016). The fertility pattern is controversy to the demographers (Bankole & Audam, 2013). Usually, fertility decline in the most of developing countries is associated with the principle of *knowledge attitudes* and *practices* (KAP), which has "constituted the cornerstone of, or basis for, FP programming" (Dodoo & Van Landewijk, 1996, p.29), which was introduced in the 1960s. However, in Ghana it didn't work as expected (Kwankye & Cofie, 2016; Ngom, 1997) and there exists a KAP gap.[9] Female education correlates strongly with fertility rate decline, but was not significant as expected in Ghana. Around 30 % women in Ghana do not use contraceptives although they wanted (Bongaarts, 1991; Sahn & Stifel, 2003). Unmet need for FP is 30 % (Kwankye, 2016). "There is huge discrepancy between contraceptive use and the level of fertility (Gaisie 2007, p.22). Ghana shows a "mismatch (between) theory and research regarding schooling". (De Rose, Dodoo, & Patil, 2002, p.52)

[8] The methods of fertility control are traditionally grouped into four categories: abstinence, contraception, sterilization, and induced abortion. ref The term "birth control," coined by Margaret Sanger in 1914 (Lader 1955), is generally used as a synonym for contraception.as cited by From the beginning, the term was intended to exclude abortion, and, in general, sterilization and abstinence have also been excluded. There are number of terms substituted for birth control, for instance ; family limitation, child spacing, family planning, and planned parenthood (Fertility Control International Encyclopedia of the Social Sciences,2008)

[9] The proportion of currently married women who want no more children and are not practicing birth control is referred to here as the conventional KAP-gap or unmet need (Bongaarts, 1991)

1.2.5. *What and Who Contributes To Fertility Decline.*

Many studies have been carried out in Ghana in order to confirm the most efficient methods to control fertility rates. , since "Ghana has had a long history of adoption and implementation of population policies" (Kanye, 2016, p.1746). Of all contributing factors, spousal power on fertility intentions and men's fertility intentions draw much attention (Ezeh, 1993, p.37; Olatoregun et al., 2014). Men are anxious that women who practice contraception might be unfathful" (Bawah, Akweongo, Simmons, & Phillips, 1999, p.54). Men have realtively more power in deciding about contarceptives or FP (Bankole & Audam, 2013; Ngom, 1997 ; Dodoo & Van Landewijk, 1996).

Women's voice is less hear. Little explored are the ways in which men's dominance in fertility decisions is associated with SEC factors and gender attitudes (Snow, Rebecca, Winter, & Harlow S D, 2013; Dodoo & Van Landewijk, 1996 ;De Rose, Dodoo, & Patil, 2002) Gender ineuality influence fertility dcisions (De Rose et al., 2002, p.57), Faliure of FP efforts may be due to "failure of identfying the who the effective fertility decision maker is in the household" (Ezeh, 1993, p.163), If family planing agendas are to succeed, they should recognize the male role and and its power, and should "expansion of FP and reaserch efforts to incoperste men"(Nii-Amoo Dodoo, Luo, & Panayotova, 1997, p.448).

There is always a gap between the actual situation and the desired level of the TFR in Ghana, which needs the clear understanding brought by research, and policy formulation in the field of demography. It made ushered pressing challenges that urgently demand attention in understanding of the SEC characteristics and gender roles of future potential parents (young men) who have the fertility aspirations of the ideal number of children is essential, as it would help in achieving expected TFR in Ghana, since the National Population Policy of Ghana established this Ideal TFR, which expect to achieve in 2020. To best of the author's knowledge, no study has assessed the association between gender attitudes and SEC factors of young men in Ghana in describing the potentially related fertility aspirations and how well they are associated with ideal family size, using the latest data from Ghana Demographic and Health Survey (GDHS). Therefore, there was a strong motive to conduct this study to fill the existing gap in the knowledge and research.

1.3 Research Questions and Research Objectives

Research Question 1

What are the determinants of low fertility ideals among young men in Ghana?

Research Objectives under research question 1

1. To assess the SEC determinants of positive deviants)[10],

2. To assess the determinants of gender attitudes among the positive deviants

Research Question 2

What is the association between characteristics of young men in Ghana in describing potentially related fertility aspirations and how well they are associated with ideal family size?

Research Objective 3 under research question 2

3. To examine the value of the characteristics of young men in Ghana in describing potentially related fertility aspirations and test how well they are associated with ideal family size.

1.4 Context

Ghana "means "*Warrior King*" and it derives from the ancient Ghana Empire, was in fact inhabited in pre-colonial times by a number of ancient Akan Kingdoms"(Worldatlas, n.d.). Ghana has a population of approximately 27 million, and consists of 10 administrative regions (See the map of the Ghana with regional TFR in 2014- Appendix 3). TFR is recorded as 4.02 (urban 3.4, rural 5.1, Northern region 6.6 while the lowest was recorded from Greater Accra, 2.8 in 2014 (World Bank, 2014). Table 1:1 (Appendix 4) shows the selected key demographic indicators reflecting achievements and policy targets in Ghana (1984-2010).

Pentecostal Charismatic is the dominant religion, followed by approximately 41.2 % of the total population, followed by Islam (15.2 %). When compared to other counterparts, Ghanaians are the most religious people in the world (Gallup, 2012). In 2012, about 96% of Ghanaians belonged to a religious organization (Gallup, 2012. The major religious groups are Christianity, Islam and Traditional religions. Ghana has extremely unequal distribution of wealth (Mittelmark, 2010), and poverty levels are highest in the three Northern regions.

[10] Terminology is clarified in chapter 4

Brong -Ahafo, Service sector contribution to Gross Domestic Product (GDP) was 52%, while industry was 27 % and agriculture was 22% (GDHS, 2015).

Attitudes in Ghana are mostly pronatalist; (Kwankye, 2016) "not ethnically homogenous and independence was recent" (John *et al*, 2007, p.7)." In 1967, Ghana "became the first sub-Saharan African country to sign the World Leaders 'Declaration on Population" (Studies in Family Planning, 1969, as cited by Agyei-Mensah (2006, p. 464). In the same year, Ghana founded the Planned Parenthood Association of Ghana (PPAG), an affiliate of the International Planned Parenthood Federation (IPPF) and later, in 1979, among 10 African countries, Ghana took part in the World Food Survey (WFS) Programme (Agyei-Mensah, 2006, p.464). Ghana is classified as a medium-fertility or intermediate-fertility country[11]. These countries are estimated to reach replacement level[12] by 2050 (UN, 2000 Revision) as cited by, Agyei-Mensah, (2006). The U.S. Agency for International Development employed Ghana's population policy for use in other countries due to its comprehensiveness and boldness (John *et al*, 2007) (See Appendix 5).

1.5 Significance, Relevance and Contribution to Health Promotion

This study was coordinated under the field of health promotion, and the study addressed reproductive health, the health equity, and gender inequality through IPV. Therefore findings from this study help to build practical theory in fertility studies, and formulate policies in developing countries that fill the gap between inequalities in health. In this regard, The HP concept is rooted in the aim to promote health for all (WHO, 1978) and contribute to more equity in health. One of the principles documented in The Declaration of Alma-Ata is 'Health for All by the year 2000' and key to understanding primary health care is to realize one is equity (WHO, 1978). "The Ottawa Charter participants made a commitment to health promotion, which was, "to respond to the health gap within and between societies, and to tackle the inequities in health" (WHO, 1986, p. 4).

[11] Intermediate Fertility countries are countries that are experiencing fertility decline but the level of Fertility is still above replacement level (i.e. 2.1 children per woman) (Agyei-Mensah, 2006)

[12] Replacement fertility is the total fertility rate at which women give birth to enough babies to sustain population levels (Wikipedia , n.d)

Most importantly, the study discourses the Positive deviance. "PD is a relevant concept for health promotion" (UIB, 2017) since the Ottawa charter defines HP as "*the process of enabling people to increase control over, and to improve, their health* (WHO, 1986, p. 1). The Alma-Ata Declaration has recognized FP as one of the essential activities contributing to access to Primary Health Care (PHC) (WHO, 1978). From the International Conference on Population and Development (ICPD) reproductive health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters related to the reproductive system and its functions and processes" (p, 40). By this definition, it implies people to have satisfactory reproductive choices and FP if they willing to do (WHO, 1978).

Furthermore, the study addressed the issue of Intimate Partner violence (IPV), which is linked to gender attitude, and the latter aspect was used in the study as one of the determinants to predict ideal fertility size. IPV is commonly used as an efficient indicator to measure gender equality and men's dominance in society. By minimizing the likelihood of IPV, it is hoped that this will result in the concomitant prevention of HIV in sub-Saharan Africa (Mathews, Eggers, Townsend, Aarø, Vries, et al., 2016). Moreover in its Declaration on the Elimination of Violence against Women ,the United Nations defines

> Violence against women as any act of gender-based violence that leads to or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether taking place in public or private life. (1993, p.1).

"Health is a basic human and societal need; hence health equity is a basic human right" (UN, 1948, p. 2). Universal Declaration of Human Rights (UDHR) for all people and all nations. Its basic tenet is to help reduce the inequality gap in all sectors of the society. (UN, 1948)

1.6 The Overview of Thesis Structure-The structure of this thesis is as follows. Chapter 2 provides a detailed literature review. Chapter 3 details the theoretical context, while chapter 4 presents the methodology. Chapter 5 describes the results, and Chapter 6 discusses the results and findings. Chapter 7 clarifies the conclusion drawn from the study and makes recommendations for future action and research.

CHAPTER 2

LITERATURE REVIEW

2.1. Review on Emerging Issues and the Need for Empirical Research

The world is classified in accordance with the pace of fertility transition.[13] Ghana is classified under category of latecomers where fertility onset began after 1980, while the other categories are 1. *Forerunners,* (onset began before 1935-England and Wales, France Sweden), 2. *Followers*, (between 1950-1964- Japan, Singapore, Taiwan), 3. *Trailers* (1965-1979) Egypt, Brazil and finally (Agyei-Mensah, 2006).

When considered the fertility decline in Africa, the study refers to the ideology of the Emmanuel Todd (1985 & 1987), which provides an extremely powerful interpretation of the rise of ideologies in the modern age with the presentation of societal modernization and cultural change, links with the declining fertility. Briefly, Emmanuel's modernization theory systematically correlates family structure, literacy, godlessness and fertility. Emmanuel concludes that literacy, contraception, industrialization and level of de-Christianization (decline of religious practice and/or belief in ideology) lead to different fertility levels in Europa and Africa. Different family structure that is embedded with polygamy and lower level of male dominancy lead the higher fertility rates in Africa (Emmanuel, 1985, 1987).

Women autonomy in fertility decisions is higher in low fertility societies (Beckman, 1984; Beckman et al., 1983). "Conflates low fertility-demand with the power to implement reproductive preferences" (De Rose & Patil, 2002, p.54). In Europa where fertility rates have been fallen lower than the replacement level[14], a few studies have done related to young men fertility perceptions. One qualitative study among 19–34 year old childless Lithuanian men (Šėporaitytė-Vismantė, Tretjakova, & Šumskaitė, 2014) revealed that individual fertility desires are closely related to perceptions of masculinity[15].

[13] Each stage is characterized via different parameters based on date of onset of their fertility transition. (Samuel, 2006).

[14] Replacement fertility is the total fertility rate at which women give birth to enough babies to sustain population levels (Wikipedia , n.d)

[15] However the definition of the normative masculinity in Lithuania "is the expectation that a man will be the main provider for the family" page 305. In Lithuanian society the role of breadwinner and childcare was seen as primarily woman's activity are often called as hybrid masculinity (Tereškinas 2006, p. 95). As cited by

A growing literature has advanced the empirical relationship between fertility decisions and SEC characteristics in developing countries. For instance: one study that used GDHS data (among the young in Nigeria) obeserved the similar SEC (age of women, marital stauts, education and occuaption) impacts on fertility in both countries (Olatoregun *et al.*, 2014) . The permanant family income acted as the main factor which determines family size in Ghana and Peru (Bollen, Glanville, & Stecklov, 2007).

Spousal communcation plays an important role in lowering fertility rates, and men have a dominence in FP decisions. For instance: one study used GDHS data and was carried out in Ghana and Kenya (Ngom, 1997). In contrast, one study among 24 countries in Sub-Sahan Africa hypotesized that both partners are equally important (Bankole & Audam, 2013). Another study in Nigeria observed that power of reproductive autonomy is balanced with men's higher autonomy in low parities and women higher autonmy with low parities (Bankole, 1995). One study examined the reproductive decision-making and male motivation for large family size in Nigeria in 1994 with 3073 couples (Isiugo-Abanihe, 1994) and concluded "Male education, age at marriage, monogamy, inter-spousal communication, and intention not to rely on children for old-age support" are significantly correlated to low fertility, while male dominance leads to higher fertility (p, 149).

While the regional studies show a mixed result there are doubts raised as to whether fertility rates in Ghana are impacted significantly by equal spousal power. "Confined to the inter-spousal level, discussion may cause wives to perceive their husbands as more accepting of FP than they actually are" (De Rose, Ezeh, & Owuor, 2004, p 90) "Men's declining fertility desires than with women's increasing reproductive autonomy" (De Rose & Ezeh, 2005, p.197). Men always take the dominant role in FP (De Rose. & Patil, 2002 ; Bancola & Singh, 1998; Sobotka, 2009; Snow et al., 2013; ; Nii-Amoo Dodoo et al., 1997). Women do not have reproductive autonomy even in higher parities (De Rose & Patil, 2002) .

Thus summing up the body of research, men have the highest normatively controlled fertility decisions in Ghana, and men's declining fertility desires seem to be associated with low

(Šėporaitytė-Vismantė et al., 2014)_ and if father has taken parental leave its termed as modified normative masculinity.

fertility rates (De Rose & Ezeh, 2005; De Rose et al., 2002) The most of recent studies in Ghana oberved the similar results. (Bankole & Audam, 2013; Ezeh, 1993; Rotkirch, Basten, Väisänen & Jokela, 2011; Jamieson, Backett, Milburn, Simpson, & Wasoff , 2010; De Rose & Ezeh, 2005;
Dodoo et al., 1997). While the literature has advanced the empirical relationship between men's influence on fertility rate decline in Ghana, less explored is how young men influence fertility outcomes in Ghana, as Snow & et al., (2013, p, 44) noted, "research examining the child number preferences of men in early adulthood is considerably rarer".

Men's reproductive characteristics and related stereotypes have been extensively studied worldwide and it is important in strongly patriarchal societies, where men's decision is predominant such as in Ghana, which shows pronatalism. Dudgeon and Inhorn (2004) refer to Greene and Biddlecom (2000) who identify important stereotypes related to men in three reproductive decisions: "many men participate in birth control through male and coital-dependent methods, pronatalism and men's dominance in reproductive decision-making varies with average fertility preferences often differing and wide variation between different regions, and may vary over the reproductive life-course"(p, 1382).

2.2 Empirical, and Literature Review on the Fertility Determinants

2.2.1. Age

The well-known fertility literature hypothesizes that age effects followed a curvilinear relationship: "standard age-specific curve for fertility: low at young ages, increasing to a maximum in the 20s, and declining at older ages"(White et al., 2008, p.805). W.B. Miller (1992) tested his T-D-I-B framework in USA and observed that the young adult period is significant with a high positive motivation for child bearing. In Africa old age is associated with higher fertility if they experienced the income insecurity (Ngom, 1997). Data from the British Household Panel Study (BHPS) on fertility in Europe demonstrated that in childless men (15-49) in the youngest age group, the majority (over 60 percent) intended to have two children. However, among older childless men, the proportion of those intending to have children was much lower (Berrington, 2004).

2.2.3 Wealth

Economic status and men's fertiliy intentions are assosiated. Becker, in the 1960s, (Becker, 1960) explained that the wealth of a couple determines their demand for children under the theory of modernization as "A change in the cost of children is a change in the cost of children of given quality"(p. 214). Becker (1960) refers to Malthus "an increase in income would lead to a relatively large increase in family size." (p.214) due to "an increase in income would cause a decline in child mortality, enabling more children to survive childhood. "….An increase in income increases fertility by inducing people to marry earlier and 'abstain less while married"

In terms of demographic transition "two large-scale trends become apparent: (I) the broadly positive association between wealth, status and fertility tends to reverse, and (ii) wealth inequalities increase and then temporarily decrease"(Colleran, Jasienska, Nenko, Galbarczyk, & Mace, 2014). Wealthy people are more likely to have access to higher education and are able to financially provide for their comparatively fewer children with superior resources than their poorer counterparts (Bollen et al., 2007).

On contrary Caldwell (1982) explained that large families are supposed to be succeed in rate of returns from children; thus cost of rising is negligible when compared to the benefits in his theory of "wealth flow". Nevertheless practical implication of this theory of fertility decline received positive and negative critics. Well suited for Africa (Oheneba-Sakyi & Heaton, 1989). " its heart lies the familiar basic utility model, people have lots of children when they are better off with more children" (Udry & Caldwell, 1983, p 238). Meanwhile, Theory of Fertility Decline is not complete. "For a theory of the demographic transition to pass muster, it must confront systematically the empirical record" (Schultz, 1983, p.167).

Despite, Caldwell theory is advanced in India and Bangladesh, It is more approachable labor-intensive societies where as traditional–agriculture is predominant and perhaps it adapts the roots of some western theories such as theories of Malthus.

2.2.3 Urban And Rural Diffrence

According to the Tobler's explanation of demographic behavior in the famous *First Law of Geography*, fertility is "expected to differ by geographic region; population characteristics

and relative changes are different in urban than in rural places" (Weeks 2016, p. 105). Although the main fertility theories related to urbanization such as demographic transition or modernization explain how urban residence and migration alter reproductivity behaviour, they have not revealed much, especially about Ghana (White et al., 2008).

Urbanization is assosiated with ideational change in terms of cost of residence, cost of child bearing, better access to modern birth control and more effective activities to reduce family size: "urbanization hastens fertility decline" (White et al., 2008, p. 816). "When people want "luxuries" or are "ambitious" or are seeking "social advancement," they find it necessary to limit the number of their children" Frank & et al (1940) as cited by (Jaffe, 1942, p.59). Urban areas attract much more ambitious people who desire social advancement and less liability, since "Children, besides being economic liabilities, restrict the individual liberties of their parents." Jaffe. (1942, p.60). Also, this idea is supported by (Agyei-Mensah & Owoo, 2015). The higher cost of living in urban areas reduces the desire for child bearing in rural areas where "tradition of chieftaincy, extended family, community wide consensus is strong, with men having the predominant role in decsion making in FP" (Phillips et al., 2012, p.187).

Gyimah et al, (2008) state that rural and Northern parts in Ghana, have been disadvantaged with poor education and health facilities. Moreover Dzegede (1981) refer to pool (1971) who hypothesizes that fertility differentials link to urbanism in Africa, and in particular to "untreated gonorrhea, marital instability, traditional methods of sexual abstention, modern contraception, marriage age, malnutrition, incidence of stillbirths and abortions, and flux of migration" (p, 234).

2.2. 4 Geographical Variation

Fertility declines do not occur in the same pattern acroos a geographical space due to the factors assosiated with multitude (Agyei-Mensah & Owoo, 2015; Tood, 1985) , as well ,One of the most distinctive factors assosiated with TFR in Ghana is significant variation between regions and among the regions (Agyei-Mensah & Owoo, 2015). The variation in the northen region is affected by age, parity, level of education, polygamy, religion and ethnicity (Phillips & et al 2012, p, 179.). TFR ranges from 6.01 in Northern Accra and 2.08 in Greater Accra. (GDHS, 2015). Accra, records a higher fertility variation than Saudi Arabia (John, 2016).

This regional variation can be explained by demographic transition theory and the therory of fertility diffusion, since high variation of SEC factors (differences in level of education, income, child mortality, urbanization,) as well as religious and deep rooted cultural practices and cutural differentials such as beliefs, norms, religion change in accordance with urbanization (Agyei-Mensah, 2015). For instance, certain tribes in the north continued to have more children in order to fight in wars. And this is difficult to address and reverse (Agyei-Mensah & Owoo, 2015, p.113).

2.2.5 Religious Affiliation

Doctor, Phillips, & Sakeah, (2009) refer to Goldscheider's (1971) "particularized theology" (PT), which provides a better explanation for the association of religious affiliation with fertility behavior in Ghana which employs "individualistic belief systems (agency, choice, ideals) which are expected to be associated with behavioral consequences. They are a "function of the particular religious doctrines about birth control (for example, bans on contraception) and ideal family size" (Doctor, Phillips, & Sakeah, 2009). Later Goldscheider realized that the PT approach was slightly wrong and added "religious subgroup differentiation of fertility patterns by invoking the "characteristics" proposition, which states that the distinct fertility behavior of a religious subgroup is a manifestation of the various social, demographic, and economic attributes" (Doctor et al., 2009, p. 113-114). Davis and Blake (1956) intermediate variables theory of fertility decline also advanced how ethnicity and religion act as intermediate variables as the means of regulating fertility.

Religion and related cultural practices are highly assosiated with fertiliy rates in Ghana (Agyei-Mensah, 2006). In Nigeria, Muslims have higher family-size preferences than do Christians, partly because the former are more likely to be in polygynous marriages (Isiugo-Abanihe, 1994). Islamic affiliation and older age positively correlates to ideal family size. "Fertility decisions are often framed with religious undertones" (Gyimah, Takyi, & Tenkorang, 2008, p.446) Christian women were more dominant in FP decisions when compared to Moslim and Traditional women (Gyimah, Takyi, & Addai, 2006).This argument is contrary with Emmanuel's idelogy which hypothsis De-Christianization (decline of religious practice and/or belief in ideology) lead to low fertility. Moreover, Olivier and Wodon (2015) in their quantitative study among men and women and the impact of religious affiliation on sexual behavior (such as using condoms, have sex before marriage etc.)

observed that religion is not significant and justified findings, as religion is not static in Ghana.

There exist some confusion and contradictory generalizations about reproductive behaviour and religious practices in Africa and, as disscussed by the ""selectivity" school of thought. The interaction hypothesis expalins the religious differences in fertility decsiosns with the level of the socio-economic development (Chamie, 1981) "relationship between religion and behavior is complex because it reflects different access to social and human capital, such as education or ethnic affiliation" (Olivier & Wodon, 2015, p.659) and supported by Gyimah et al. (2008) also Obeng Gyimah (2007).

In other words, religious variations mainly reflect differencial access to SEC factors (region and place of residence have a confounding effect) rather than religos theology in Ghana. For instance : Muslims and tradiontnalist who live in northen part are mostly became disadvantaged in terms of better education and better health services (Gyimah et al., 2008), muslims tend to be at lower sttrata of educationa level than christians in ghana and latter show lower fertility (Gyimah et al., 2006).The christian are more westernaized and modernand (Gyimah et al., 2008) and benefited by many educational instutions promoted by missinary work, (Takyi & Addai, 2002) therefore keep lower fertility than tradinalists . Mean children ever-born, was 3·56 among non-Catholic Christian women compared with 4·50 among Traditionalists (Gyimah et al., 2008, p.455). "The Muslim/Christian difference grows wider at higher levels of development and at higher levels of educational achievemet " (Heaton, 2011,p.463), while Muslims tend to be at the lower echelons of the educational ladder than Christians, hence the lower fertility of the latter" (Gyimah et al., 2006;Takyi & Addai, 2002)

2.2.6 Ethnicity

Ethnicity is associated with patterns of childbearing in Ghana (Oheneba-Sakyi & Heaton, 1989). Davis and Blake (1956) intermediate variables theory of fertility decline advanced how ethnicity and religion act as intermediate variables as the means of regulating fertility in a particular social system in a society or country (Oheneba-Sakyi & Heaton, 1989). More tarditional grups are willing have higher fertility. Ghana shows multiple "ethnicities; religions, regions of origin, occupations, and gender, but none of these identities exists in

isolation" (Olivier & Wodon, 2015, p.69). Alison (2010) adapted the Davis-Blake paradigm,) who seeks the relationship between reproductive behavior and ethnicity, was not significant. Takyi and Addai (2002) also referred to Davis-Blake paradigm, in order to advocate the direct variables caused by social transformation such as education, migration, and urbanization.

Additionally, ethnic groups are associated either with matriarchy or patriarchy. Polygamy is more patriarchal while monogamy is more matrilineal. Whether they are fecund or not depends heavily on ethnic norms (Oheneba-Sakyi & Heaton, 1989). Ga-dangbes ethnic group shows fastest subsequent births, while Akan's and Mole-Dagbani are the slowest; the pattern of childbearing for Ewe ethnicity shows inconsistent child bearing while Akan and Mole-Dagbani ethnicities are having longer birth intervals explained by their conservative practices (Oheneba-Sakyi & Heaton, 1989). The major ethnic groups in Nigeria differ considerably in their culture, life philosophy, and family orientation. These differences are expected to produce variations in individual motivation and decision-making regarding fertility. "Culture and religious beliefs wield much power in any population policy implementation" (Kwankye, 2016, p.1736).

2.2.7 Level of Education

Increased level of education is assosiated with decreasd fertility rates. Emmanuel's idealogy and other demographic theories expalin how fertility is assosiated with schooling through changing attitudes. "Modernization theories frequently employs education as an indicator of structural change" (Dodoo, 1993, p. 242). The demographic literature believes fertility changes need KAP since other moderators such as urbanaztion cause postive effects, (Weis, 1979), as "Consistent with the high level of urbanization, educational levels are also very high in the Greater Accra region" (Agyei- mensah, 2006, p.469).

Moreover, fertility decline in most of developing countries is believed to be linked with the rising level of education: for instance Sri Lanka (Meewalaarachchi, 2015) and neighbor African countries Kenya, (Gwako, 1997; Njogu, 1991; Olatoregun et al., 2014; Weis, 1979). There is a positive association between the proportion of women having no education and stalled fertility decline across East Africa (Kenya, Tanzania, Uganda, and Zimbabwe) (Alex Ezeh, Mberu, & Emina, 2009).

In the contrarily: That education is not always, nor necessarily, an independent or direct contributor to fertility levels or behavior (Graff, 1979, p.132), where fertility decreases due to other factors (such as modernity or status etc.) the analysis are often confused. In Ghana education does not support women to autonomy in fertility decisions (Bankole, Singh, & Haas, 1998). The influence of men's education level on a wife's fertility intention seems to be higher in patriarchal communities than in matrilineal groups due to the responsibility of managing the cost of childbearing and maintenence resting with the father (De Rose , 2007).

Suporting the above argument; Ghana shows a "mismatch (between) theory and research regarding schooling" (De Rose et al., 2002, p.52), with their qualitative study with fertility preferences of young men and women, in Accra and concluded that the inverse relationship between education and fertility is not seen as strong under economic hardship, and women's schooling on its own is insufficient to change fertility decisions. Moreover, in their study 1/3 young men (who are university students) thought it was theirs to make reproductive decisions alone, and almost half of the men responded as "that they would be the sole decisions makers if they wanted to limit the fertility" (De Rose et al., 2002b, p.64).

2.2.8 The position of the household and sex of the household head

The DHS. (2017) defines the head of the household as '...the head of the household [is] the person who is considered responsible for the household. This person may be appointed on the basis of age (older), sex (generally, but not necessarily, male), economic status (main provider), or some other reason (Sedziafa, Tenkorang, & Owusu, 2016b, p.265). However, the chance of women reporting themselves as the household head when an adult male lives in the house will vary among societies and cultures. In Sri Lanka, where patriarchal values are strong, a female head of the household usually indicates the absence of a husband and still keeps the low fertility ideals. Female-headed households are recoded in at least one in ten households in all countries except Bangladesh, Burkina Faso, and Pakistan.

However, in Ghana one in three households are reportedly headed by a female (DHS program, (n.d.). Moreover the majority of respondents attributed IPV to generalized poverty and women's economic dependence on their husbands (Sedziafa et al., 2016b, p.19) "Higher

education of the head is associated with a slightly smaller number of children" (p.274). "Men households are systematically larger than those headed by women (p.277).

2.2.9 Marital Status

Marital status in Ghana is very complicated due to the existence of both polygamy and monogamy (Emmanuel, 1987), and involves the payment from husband to wife. This payment is considered as an exchange of decision-making power in favor of man. The role and impact of men's dominance varies between these two dyad situations. Agadjanian and Ezeh (2000) observes the characteristics of polygamy with reference to the ideal family size. Both spouses in areas with widespread polygamy are more likely to want larger families when compared to areas with lower rates of polygamy, and husbands in the higher polygamy areas have 20% more power than their lower polygamy counterparts. Moreover, Agadjanian and Ezeh (2000) noted that couples in areas with widespread polygamy are less likely to use contraceptives.

Gyimah et al., (2008) posited that polygamous marriages seem to be popular among rural Muslims and Traditionalists, and stated that 20% of Muslim and traditional women were involved in polygamous relationship, while the corresponding number for Christian women was 6 %. Desired family size among men who are in union or married (according to DHS 2003-2009 among 24 countries), Ghana was reported as 6.9 and corresponding number for women was 5 (Bankole & Audam, 2013), highest in Chad that was 13.8 and lowest was Swaziland and that was 3.7. Monogamously married men have lower family size and desire fewer children than do men in polygynous unions in Nigeria (Isiugo-Abanihe, 1994).

2.2.10 Gender Attitude

Intimate Partner violence (IPV) has been used extensively as an efficient indicator to measure gender equality and men's dominance in society (Snow et al., 2013). Moreover, IPV has been identified as the most glaring indicator of women's empowerment (Watt et al., 2011). Since 2000, DHS questioners have been collecting data on justification of wife beating which facilitate researchers in analyzing gender attitudes among men, based on five main questions (refer to methodology). Increased interest and worldwide public health scrutiny have seen the

data on tolerance of wife beating (IPV) employed as a measure of gender attitude (Snow et al., 2013). An emerging discourse on IPV is measured by justification of wife beating.

The assosiation beween attitudes towards IPV and actual outcomes have been addressed in Afiracan continent recently. "Reducing IPV is thus likely to lower risk for HIV/STIs in the long run" (Mathews, Eggers, Townsend, Aarø, De Vries, et al., 2016, p.1838). One study examined the IPV attitudes and actual outcome using TPB among adolesnece (sample of 3940) in South Africa (Wubs, Aaro, Mathews, Onya, & Mbwambo, 2013) and observed "bidrectional interrelationship bewenn attitudes and behaviour"(p. 337).

IPV and women reproductive decision are highly correlated. "violence during pregnancy is related to adverse pregnancy outcomes in Ghana" (Pool, Otupiri, Owusu-Dabo, de Jonge, & Agyemang, 2014). One study in Navangaro district in Ghana observed women's response to men´s power on sexual right and IPV (Bawah et al., 1999) and indicates the men's dominance in reproduction. "*So that he can have children with you and that you have no right to tell him not to have sex with you. If you still insist, he beats you* 56. . (Old woman, Naga) "*When the women also go to adopt a method of family planning, they beat them*. (Old woman, Naga) (p.57). "*If you discuss [family planning] with some men, they will get up and beat you*. (Young woman, Kayoro) (p. 57).

> If a woman is not experiencing her menses and considered grounds for divorce: is not sick or not sick, she has no right to refuse sex, because we marry her to have children, and that is how we can get children. We do not marry women for their cooking. So if she refuses to have sex, why won't I want to beat her? I will beat her. (Male opinion leader, Kologo) (p. 57).

Moreover (Sedziafa, Tenkorang, & Owusu, 2016a, p.1386) in their qualitative study observed the same impact.

... "He [my husband] even beats me sometimes when I try to deny him sex" (Ladje, petty trader, 26 years old, mother of three, married)
"The other time he beat me and I lost my seven-months pregnancy" (Awonye, petty trader, 50 years old, mother of four, married)(p.1385).

Very little is known about African male beliefs and attitudes towards IPV (Takyi & Mann, 2006). Takyi and Lamptey (2016) found Ghana to be an interesting country to do research on

IPV for several reasons: 1. Religious IPV in its various forms is very prevalent and has become a fiercely debated issue[16] 2. Ghana is considered as one of the most religious nations and 3. faith-based organizations and NGOs are willing to provide help for female victims (p.43). The intentions of a man to beat his wife have been widely explored in sub-Saharan Africa in association with SEC factors. Data show that men who never married, are younger, live in rural areas, have little education, and are less wealthy tend to believe that wife beating is justified.

Ethnicity also seems to play a dominant role in the justification of wife beating. Molde Dagbani ethnicity shows a higher IPV rate than Ewe ethnicity, can be discussed under the paying of higher value of bride wealth is associated with the higher IPV (Takyi & Mann, 2006). Wealthy women faced more IPV than their less wealthy counterparts. Men's position in society, being employed and different types of occupation have no association with wife beating, while others note that kinship and traditional matrilineal values have strong association with less IPV, Ashanthi (Takyi & Mann, 2006). Sedziafa et al. (2016b, P.1) using qualitative study explored differences in Ghanaian women's experiences of IPV in both kin groups in both matrilineal and patrilineal descent systems.

"The possible link between religion and IPV in Ghana draws on ideologies about male supremacy and domination that permeate religious doctrines, sermons, and practices in the country" (Takyi & Lamptey, 2016, p.6). One study among married women which employed ATT-IPV (attitudes about IPV Scale (See the details of the scale in Yount et al., 2014) in Vietnam -My Hao district, observed that attitudinal gender gap has casualty with IPV (Yount et al., 2014).

Less explored the causality of the fertility aspirations of young men with childbearing decisions. "The relationship between women's attitudes toward gender equality and their fertility aspirations has been researched extensively, but few studies have explored the same associations among men" (Snow et al., 2013, p.1). They analyzed the causality between gender attitudes of young men with fertility aspirations using 2008 GDHS data among five

[16] "that have appeared in Ghanaian news outlets for quite some time now. A quick glance through some Ghana's newspapers reveal such front page headlines as "Farmer butchers wife," "Man chops off wife's head," "Painstil assaults wife! " (Takyi and Lamptey, 2016, p. 43)

high fertility countries (Ethiopia, Rwanda, Tanzania, Uganda, and Zambia). Snow et al. (2013) employed young men (15-24) and revealed that gender attitudes are highly correlated with ideal number of children in all of those 5 countries. However, their analysis is 9 years old (2008) and (Snow et al., 2013) did not address the fertility intentions of young men who have never had children who have potential to have children in the future. Moreover, that study did not attempt to predict the ideal fertility rate in Ghana. Therefore, although that study was interesting in analyzing the GDHS in 2008, important questions remain unanswered for both demographers and policy-makers.

CHAPTER 3

THEORETICAL BACKGROUND

This chapter is divided into two sections: The first section presents the theoretical framework, while the second section explains the PD approach used in the study.

3.1. **Theoretical Background**

Theories on human fertility are nothing new and numerous theories have surfaced since the introduction of the Malthusian classical economic theory in 1798, which explains the relationship between population growth and income. In 1993, Nobel Prize winner Gary Becker introduced the Human Capital Theory, which explains the relationship between human capital and family growth. Then the Theory of Demographic Transition became popular to explain the apparent processes of demographic transition in the course of modernization and economic development (Bart, 1999).

Until recently, little attention has been given to the impact of determinants and attitudes of individuals on the fertility transition in developing countries, where demographers struggle to control high fertility rates. Therefore the Theory of Planned Behavior (TPB) came to the forefront, which was primarily used in a rational thinking process where the costs and benefits of fertility actions and perceptions are weighted (Morgan & Bachrach, 2011). Behavioral scientists expect more constructs and hypothesis more than prediction Miller (2011a).(W. B. Miller, 2011). Therefore, Miller posited that TPB has some limitations of explaining the human reproductive behavior precisely.

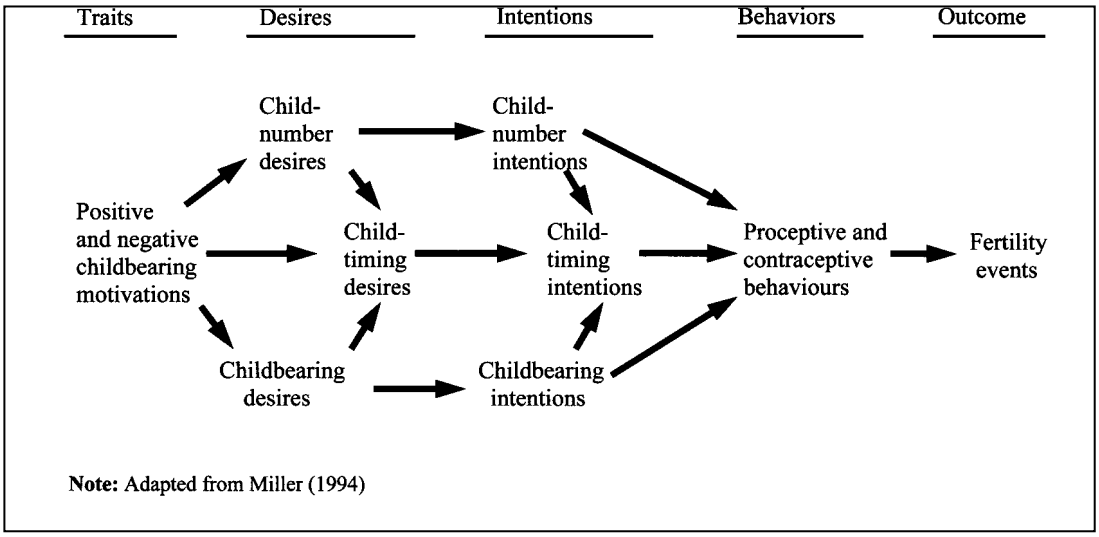
3.1.1 Theoretical Framework

This study focuses on determinants of fertility ideals among young men in Ghana. Therefore, this study used a model that conceptualizes the individual's reproductive behavior and childbearing motivation. The T-D-I-B model that was developed by W.B. Miller, (1992; 2011a 2011b, 2012), based on TPB, is extensively used in many fertility studies in order to describe an individual's reproductive behavior and childbearing motivation. The basic framework of T-D-I-B works as follows: behaviors of an individual "unfold in a sequential process that begins with non-motivational dispositions (traits) to have or not have children, conscious desires to have children or not," (Miller, 2011, .p. 76). "Then it in turn lead to

intentions to have children or not, "which finally lead to the performance behaviors that are instrumental in the achievement or avoidance of the childbearing" (Miller, 2011, .p. 76).

Individual's fertility motivation (that can be positive or negative) is explained by two distinct motive systems: desires and intentions as explained earlier. "Traits represent an individual's motivational basis, or a general disposition and child bearing, which develops by genetic and environment interactions during the childhood" (Rotkirch et al., 2011, p. 286). There is a clear difference between desires and the intentions; "desires simply reflect a wish to achieve a goal through some sort, whereas intentions involve a specific decision to pursue an actionable an associated commitment and, commonly, a plan for implementing" (Miller 2011a, p. 78).

Figure 3.1. T-D-I-B Individual's Reproductive Behavior



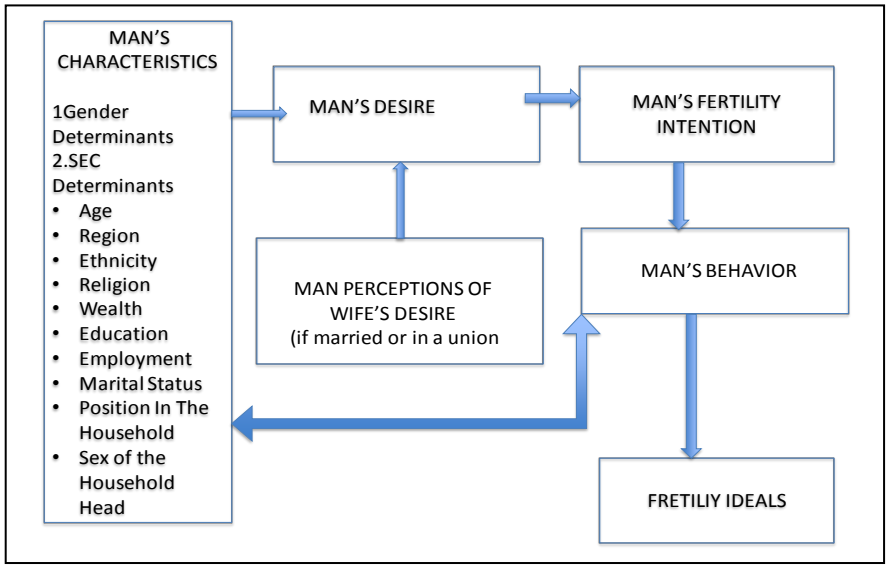
Source: Miller (2011, p.77)

Child bearing desires and intentions further separate into to three folds: child bearing, child number, child timing (specific number of children and to have them at a particular time) (Miller, 2011b). Miller simply explained this procedure as "When the time and the condition are right, intentions of sufficient intensity are translated into instrumental behaviors: that is those behaviors which are calculated to produce the desired effect" (Miller 1992, p. 266). Figure 3.1 is an expanded version of the T-D-I-B model to show individual's interactions with 2 types of traits, 3 types of desires and 3 types of intentions, their effect on two fertility behaviors and the probability of any subsequent fertility events.

3.1.2 Conceptual Framework

Based on the above T-D-I-B theoretical framework, the following conceptual framework (Figure 3.2) was developed. It also adapted the framework used by De Rose (2005) and the schematic of the theory of planned behaviors, which was modeled by Fishbein and Ajen (2010) as cited by Morgan & Bachrach, (2011, p. 12). This study referred to the dependent variable as men's fertility intention, while recognizing that it includes elements of both desires in addition, intentions. Among the many factors affecting fertility outcomes, this study concentrated on two main background characteristics, i.e. (1) gender attitudes and (2) SEC (refer to methodology chapter).

Figure 3.2: Conceptual Framework for Individuals Reproductive Behavior



Source: Author (by adapting De Rose (2005) and a schematic of the TPB modeled by Fishbein and Ajen (2010))

3.2 Positive Deviance Approach (PD)

""In every community or organization, there are a few individuals who have found uncommon practices and behaviors that enable them to achieve better solutions to problems than their neighbors who face the same challenges and barriers" (Pascale et al., 2010, p 206).

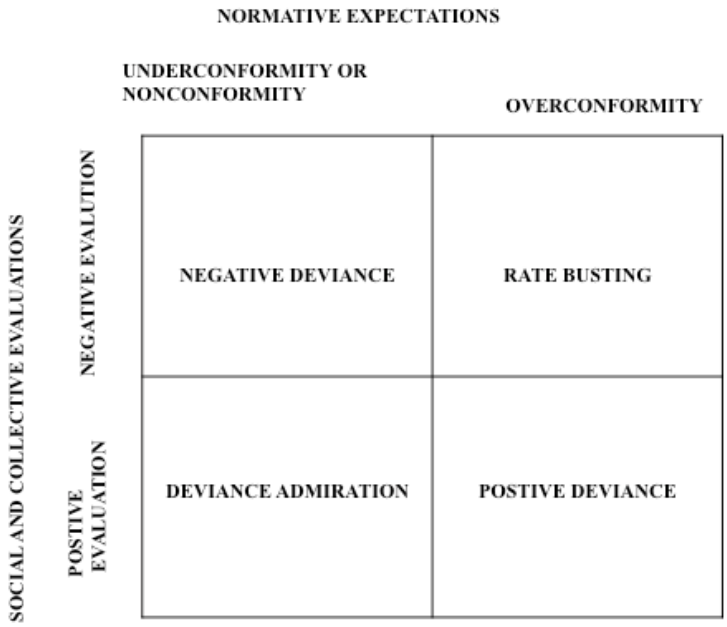
The PD typology first emerged in the field of sociology (Summer, 1994) and it entered into health promotion, being popular with programs of child nutrition ranging from an absolute approach to a statistical one .It was later used by Zeitlin,(1990) ;Ma & Magnus, (2012); Nieto-Sanchez, Baus, Guerrero, & Grijalva, 2015; Pascale, (2010) and others:(Schooley & Morales, 2007; Tarantino, 2005)._It_became popular since it shares similar notions and terminologies with other health and community approaches such as assets based community development (ABCD) (Mathie and Cunningham, 2003), and resiliency (Zeller, 1991), including health participatory approaches (Minkler & Wallerstein, 2008), as cited by (Bisits Bullen, Schwab, Fraser, & Spillett, 2012). It is also applied in other fields, such as in tackling smoking cessation among Australian schools(Schofield, Lynagh, & Mishra, 2003), studies among prisons (Nelson-Green & Clear, 1994) and the studies of human trafficking (Brunovskis & Surtees, 2015) .See the database produced by Department of health Promotion for further review (2017).

With reference to the Heckert explanation (2004) on the deviance typology (Figure: 3.3) there are four groups of extraordinary people in society and they can be grouped based on normative expectations and social and collective evaluations. Even though given examples are too specific and extraordinary (Heckert & Heckert, 2004), It is worth noting the other three groups in the deviance typology other than the positive deviants. This study used only the positive deviants.

Negative deviance- The extraordinary people who is ABCs are criticized and negatively evaluated by society, as they were under-conformed or non-conformed. They are labeled under "*Jeffrey Dahmer phenomenon"* (unpopular politicians, most criminals) (Heckert & Heckert, 2004).

Rate busting- Extraordinary people whose ABCs are evaluated as idealized, though they were negatively evaluated and labeled under "*Geek phenomenon*," which is believed more realistic or achievable by typical people (Heckert 1998). Huryn (1986)"identified that gifted students are often rejected by their peers"(Krebs, Adinolfi, & Lanzetta, 1975) concluded that "the attractive are often slighted by members of their same sex"; as cited by Heckert & Heckert, (2004, p.212)

Figure 3.3: Deviance Typology



Source: Heckert & Heckert (2004,p.212)

A Deviance Admiration- Extraordinary person who is ABCs is positively or favorably assed by society collectively even though they were under-conformed or non-conformed and labeled under the "*John Gotti phenomenon."* Robin Hood is not relegated to the realm of myth but has bona fide real-life counterparts, ranging from Billy the Kid to D. B. Cooper to Butch Cassidy (Heckert & Heckert, 2004, p.204).

Positive Deviance -The people whose ABCs are positively evaluated, idealized and always produce advantages to society and are labeled under "'Mother Theresa phenomenon. (Heckert & Heckert, 2004). The positive deviants in a given society can be defined as "individuals whose uncommon practices and behaviors enable them to develop better solutions to problems than their neighbors who have access to the same resources" (Pascale et al., 2010, p. 206).

CHAPTER 4

METHODOLOGY

This chapter discusses the research methodology adopted in this study, including research design, data, variables and measures, data analysis and interpretation, and finally the ethical considerations applied.

4.1 Research Design

This is an exploratory study based on Ghana. The approach of research was quantitative, and answered three research questions. This study used secondary data from the latest Ghana Demographic and Health Survey (GDHS) in 2014 that comprise a wide range of variables and a larger sample size that helps generalization of the results of the study. Therefore, a quantitative approach of research was more appropriate than a qualitative methodology. The Statistical Packages for Social Science (SPSS) version 23 was used to analyze the data.

4.2 Data

This section is two-fold: first, it describes the collection of data and respondents of the study, and second, it explains the rationale of the study, data management methods, and the quality assurance protocols adopted by the global Demographic and Health Surveys (DHS) Program.

4.2.1 Data Collection and Respondents

The 2014 GDHS is the sixth in a series of population and health surveys conducted in Ghana as part of the global DHS Program, and was implemented by the Ghana Statistical Service (GSS), the Ghana Health Service (GHS), and the National Public Health Reference Laboratory (NPHRL) of the GHS (GDHS 2015, p.xviii). The survey was designed to provide information on housing and household characteristics, education, maternal and child health, nutrition, family planning, gender, and knowledge and behavior related to HIV/AIDS in order to monitor the population and health situation in Ghana as a follow-on to the 1988, 1993, 1998, 2003, and 2008 GDHS surveys (GDHS, 2015). The survey used a two-stage sampling strategy based on the 2000 Population and Housing Census in order to produce separate estimates for key indicators for each of the ten regions in Ghana (GDHS, 2015).

In GDHS 2014, all eligible women between the age of 15-49 years and all eligible men between the age of 15-59 years were interviewed based on Women's and Men's questionnaires, respectively, and data collection was taken place over a three-month period from early September to mid-December 2014 (GDHS, 2015). A total of 12,810 households were selected as the survey sample, of which 10, 214 were interviewed, whereas 4,175 men aged 15-49 years; 2,061 living in urban areas and 2,114 in rural areas, had completed the interviews (GDHS, 2015).

4.2.2 Survey Types, Phases and Timelines

There are two main types of DHS Surveys: Standard DHS Surveys and Interim DHS Surveys. Standard DHS Surveys have large sample sizes (usually between 5,000 and 30,000 households), and typically are conducted about every five years. Data used for this study comes from the standard DHS survey. The second type (Interim DHS Surveys) is conducted with smaller samples than DHS surveys and has shorter questionnaires (GDHS, 2015). DHS surveys take on average 18-20 months and each survey is executed in four phases: first, survey preparation and questionnaire design; second, training and fieldwork; third, data processing; and finally, report, data preparation and dissemination (GDHS, 2015).

4.2.3 Data Management Methods and the Quality Assurance

An in-country institution (The National Statistics Office) whose technical assistance ensures data quality and international comparability conducts the GDHS. The main aim of the DHS is to provide quality data for policy development and program planning, monitoring and evaluation and peer reviewed researchers, and there is a transparency of DHS that allows for external review and feedback beyond the internal quality assurance and control procedures in place (Fabic, Choi & Bird, 2012).

The DHS Program has well-developed standard procedures, methodologies, and manuals to guide the survey process in order to process the data formats that properly describe the correct situation of the relevant country. In the data processing stage, the DHS checks for consistency including editing, coding, entering and verifying the data. While data are collected, data entry and editing are taken place simultaneously in order to improve the data quality and all data are checked for accuracy before they are released to the public (GDHS, 2015).

In order to ensure that survey procedures are consistent with the technical standards set by the DHS, and to ensure that survey activities are progressing at a reasonable pace, the precise number of technical assistance are provided by the DHS Program during visits to the country and throughout the whole survey process, and specially at critical stages of survey implementation (GDHS, 2015). Moreover the validity of the data is strengthened by the high response rate of men's response rate is 96 % in both urban and rural areas (GDHS, 2015).

4.3. Introduction of the Variables and Measurements

Among the many factors, affecting fertility outcomes, the study may distinguishes between two main background characteristics of Ghanaian men. Men's background factors are divided into two, namely: (1) gender attitudes and (2) SEC determinants. Educational achievement, age, working status, occupational group, religion, marital status, wealth index, ethnicity, region, position in the household, sex of the household head and type of place of residence are considered under SEC factors. The study used positive and non-positive deviants as the dependent variables.

4.4. Data Analysis and Interpretation Methods

This section designates the applied quantitative methodology in the study.

Binary logistic regression analysis model is explained as (Tabachnick and Fidell , 2013)

Model:

$$\text{logit}\big(p(x)\big) = ln\left(\frac{p(x)}{1-p(x)}\right) = a + b_1x_1 + b_2x_2 + \ \ldots$$

$$P = \frac{e^{a+b_1x_1+b_2x_2+\ \ldots}}{1+e^{a+b_1x_1+b_2x_2+\ \ldots}}$$

$X = (X_1, X_2, \ldots X_k)$ be a set of explanatory variables

Hypothesis

H0: All the coefficients in the regression equation take the value zero.

H1: The model with predictors are accurate and differs significantly from the null of zero

4.5 Parameters or variables

Parameters or variables are obtained as follows.

4.5.1. Outcome Variable -Positive And Non-Positive Deviants

The selection of the positive and non-positive deviants from the total sample is explained in Figure 4.1. From 11, 835 households who were interviewed from a population of 27 million Ghanaians, there were 4,388 men in the age group of 15-59 years. The present study focused on young men between 15 to 24 years, who do not have children at the time of the survey. Terminology of the positive and non-positive deviants is defined in chapter three. When considering fertility ideals in Ghana, positive deviants can be defined as *young men (15-24) who have no children yet whose fertility ideals ranged between 1-3 children.*

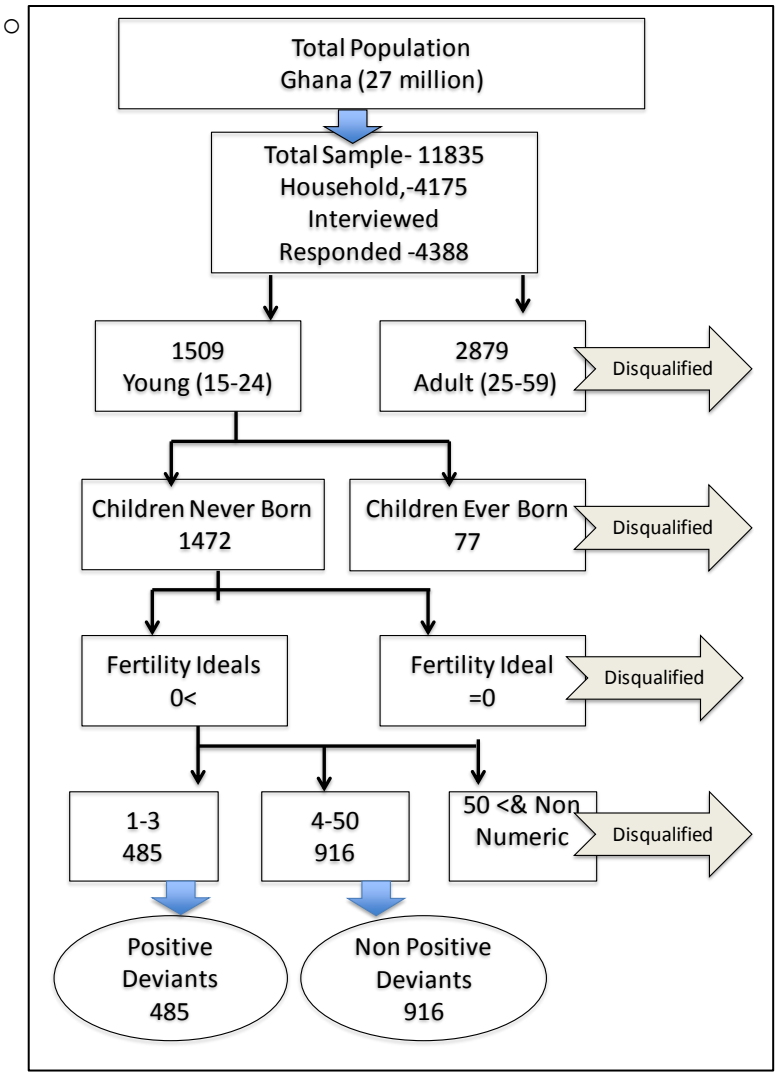
The rationale for selecting young men is that they have the potential to define gender roles and they are potential parents. Young adult males from Africa (who are in the age of 15-24 years) are the group who enter newly in conjugal unions with values regarding gender and marital roles (De Rose, 2005). The National Population Policy of Ghana has set their effort to systematically integrate population variables in all areas (NPC 1994) and therefore one of the objectives is to reduce (TFR) to 3.0 by 2020 (GDHS 2015, p 3).

Study also checked the ability of these men entering into reproductive role with cross checking two other variables in GDHS 2014; MV602 (fertility preferences) and MV605 (Desire for more children). Fertility preference variable has 8 responses such as, 1 "Have another, 2 "Undecided", 3 "No more", 4 "Sterilized (respondent or partner(s)", 5 "Declared infecund (respondent or partner(s))", 6 "Never had sex", 7 "Man declared infecund", 8 "Man has no partner" while Desire for more children variable has 8 responses such as: 1 "Wants within 2 years", 2 "Wants after 2+ years", 3 "Wants, unsure timing", 4 "Undecided", 5 "Wants no more", 6 "Sterilized (respondent or partner(s)", 7 "Declared infecund (respondent or Partner", 8 "Never had sex". None of the young men who have not children yet was infecund or sterilized.

The adult group recorded the highest number of ever born children in Ghana as 35. As recommended by ORC Macro, (n.d.) .numeric responses greater than 50 were coded as

missing, and Non-numeric responses, such as "It is in the hands of God," were coded as missing according to De Rose (2005) and also Westoff (2010) recognized this as a potential source of bias. Respondents whose fertility ideals of zero (who contributed nothing to the national TFR) were removed.

Figure 4. 1: Schematic Framework For Selection of The Dependent Variable



Source ; Author

Men's fertility ideals were assessed by two questions (Question number 52, in GDHS, 2015): A. For men without children, the following question was asked: "If you could choose exactly the number of children to have in your lifetime, how many would that be?" B. The question asked from men who were having children at the time of the survey was: "If you could go back to the time when you did not have any children and could choose exactly the number of

children to have in your lifetime, how many would that be?" The dependent variable was coded as 0= non-positive deviants and 1= positive deviants.

4.5.2 Predictor Variables

Age – Respondent's "current age" was determined by the question: "In what year and month were you born?" The absolute aged 15-59 was then categorized into two: 15-19 coded as 1 and 20-24 was coded as 0.

Type of place of residence

The bivariate analysis was done for the type of place of residence with variable number MV135: that is usual resident or visitor, since the study included permanent residents only. "In half of the households, all men aged 15-59 who were either permanent residents of the selected households or visitors who stayed at the households the night before the survey, were eligible to be interviewed" (GDHS, 2015, p.30). Therefore, the study composed a new variable after deducting number of visitors from the residents by carefully checking the IDs. Type of place of residence was originally coded as 1=urban and 2 = Rural, and were recoded as 1 = rural and 0 = Urban.

Religion

Respondent's "religion" was also determined by asking the question, "What is your religion?" Religion was composed into four main categorical variables, such as Islam, Pentecostal and charismatic, other Christian and other religious affiliations. The "Other" category represented the people who included a combination of traditional faith, no religion, Seventh-Day Evangelist, or unspecified religion. Reference The initial religious variable (MV130) was coded, 1 "Catholic", 2 "Anglican", 3 "Methodist", 4 "Presbyterian", 5 "Pentecostal/charismatic", 6 "Other Christian", 7 "Islam", 8 "Traditional/spiritualist", 9 "No religion", 96 "Other. Religion was recoded into dummy variables: 0 = Other Christian 1=Islam, 2 = Pentecostal and charismatic, 3=all others.

Wealth Index

Wealth Index was composited by the DHS and ranked into quintiles of level of wealth based on assets at household level such as services and amenities. The wealth quintile was

constructed in GDHS (2015), with the information on household ownership of consumer items, ranging from a television set to a bicycle or car, as well as dwelling characteristics, such as source of drinking water, sanitation facilities, and type of flooring material. Finally, asset scores were standardized in relation to a normal distribution with a mean of zero and standard deviation of one (GDHS, 2015). Initially Wealth Index was categorized as categories: 1 = poorest 2, =poorer, 3 = middle, 4 = richer and 5 = Richest. The wealth quintile groups were then recoded into the following categories: 0 = Richest, 1 = richer, 2 = middle, 3 = poorer and 4 = poorest.

Marital Status

Marital status was recoded into two categories, such as "never married" and "ever married". Respondents who are married, widowed, divorced, or separated are referred to as "ever married". However, there was none among the young men who were widowed, divorced, or separated. Men who responded as "living together" were also included in the "ever married" group. Marital status' is coded 0, if men were ever married, and coded 1, otherwise.

Men's Employment Status

This measure (MV714) was initially coded as, 1=currently not working and 2=currently working. It was recoded as currently employed =1 or otherwise =0. There is another useful variable 714A that is "having job but currently unavailable", showed a higher number of missing value hence it didn't help.

Occupational group

Respondent's occupational status/group was measured by the question "What is your occupation? That is, what kind of work do you mainly do?" Originally this variable coded as "not working/did not work", "professional, technical, management", "clerical", "sales", "agriculture self-employed", "agriculture employee", "household & domestic", "services", "skilled manual", and "unskilled manual "and "don't know". These above 10 categories were again categorized in to 4 groups such as 0=skilled manual (skilled manuals) 1=while collar workers, ("Professional/service/technical, clerical and sales) 2= not working", 3= unskilled manuals, (agriculture self-employed", "agriculture employee", "household & domestic", "services").

Men's Educational Attainment

Education was measured as a categorical variable by educational levels. The original educational variable was categorized into 0 = no education, 1 = primary, 2 = secondary, 3 = higher and 8 = don't know. This was recoded and divided into three levels, as men who did not have any education coded as 0, = 1 otherwise, men who have had partially or fully completed primary education coded as 1=0 otherwise,, and men who have had partially completed secondary education or higher coded as 2, = 0 otherwise). This categorization helped to minimize the age factor in education. In Ghana, secondary education starts when people turned 14 years, and a young man who is 15 years old or a young man who is 24 years old have the same chance to start secondary education (GDHS, 2015). Moreover, this categorization helped to avoid overlap in the sample of primary and secondary education level, since if the study had selected three classification levels of education, those who had completed primary education would also have included those who had completed secondary education.

Ethnicity

Respondents "ethnicity" was determined by the question, "to which ethnic group do you belong?" The previous ethnicity variable was coded /MV131 «Other" 1 = Akan, 2 =Ga/Dangme, 3 = Ewe, 4 = Guan, 5 = Mole-Dagbani, 6 = Grussi, 7 = Gruma, 8 =Mande, 996=other = other. Ethnicity was also recoded into variables: 0 = Ewe, 1= Mole-Dagbani, 2 =Akan, 3= other.

Region-Region was coded as 1=Western, 2=Central, 3=Greater Accra, 4=Volta, 5=Eastern. 6=Ashanthi, 7=Brong Ahafo, 8=Northern , 9=Upper East, 10=Upper West, and recoded as 0= Brong Ahafo, 1= Upper West 2= Northern , 3=Western, 4= other.

Sex of the Household Head

This variable originally coded as 1=Male, 2=Female, and it was recoded as male=1 and female=0.

Position in the Household

Initially this variable was divided into 11 groups, such as, head, husband, son, son-in-law, grandson, father, father-in-law, brother, other relative, adopted /foster child, and none-related. In the study, it was recoded as 0=living with other family members, 1= head of the household, and 2=living with parents' family members.

Gender Attitude

Gender Attitude of men was measured by men's attitude towards wife beating. Gender attitude was measured by finding out men's tolerance for wife beating. The following question was posed to all male respondents and was presented with five scenarios: "Sometimes a husband can be annoyed or angered by things which his wife does. Hence, in your opinion, can wife beating be justified in the following situations?" 1. "If the wife burns the food" 2. "If the wife argues with the husband" 3. "If the wife goes out without informing the husband", 4. "If the wife neglects the children", 5. "If the wife refuses to have sexual intercourse with the husband". Those who agreed with at least one justification for wife beating were compared with those who did not agree with any of the five scenarios. Responses for the five scenarios were used to create the summary measure for tolerance of wife beating in the analysis. Respondents with missing values (10 missing) were excluded in the analysis.

4.6 The chronology of the analysis

In the process of the analysis, the following steps were taken. All data management and analyses were conducted using survey procedures in SPSS version 23.An alpha of 0.05 is an indicator of a statistical significance in the analyses. Logistic regression was selected since it permits the testing of models that predicts dichotomous outcomes (Pallant, 2013)

4.6.1.Screening, Cleaning, and Handling the Missing Data

The study took two steps of data screening process: first, errors were checked and corrected in the in the dataset; and second, frequencies were requested from the SPSS in order to double-check the corrections that were made in the first step. As recommended by Pallant (2013). Since the survey respondents were human, it is very rare to have perfect data without errors and it should be checked carefully as it can have dramatic effects on the analyses (Pallant, 2013).

4.6.2 **Handling the Missing data**

Analysis of data with missing figures is an ubiquitous problem, and "the standard strategy of including only cases on whom a particular analysis can be carried out can lead to biased estimates (Raghunathan 2004, p. 15). There were some missing data for a few variables, ranging from .2 % and up to 7 %. However, these appeared to emerge randomly throughout the data. There are mainly three approaches to deal with missing data: weighting, multiple imputation and maximum likelihood approach, which need user-developed software for implementation (Raghunathan, 2004). According to Pallant (2013), there are three main options in handling missing data in the process of the analysis: the excluded cases list wise, the excluded cases pairwise, and replace with mean in a study. The respondents with missing data for all variables used in the study were coded as missing and were excluded in the data sheet. Analyses were run excluding cases pairwise with no replacement for missing data.

4.6.3. **Univariate Analysis**

Univariate statistical analyses were performed on all variables; the simple weighted descriptive statistics explored the frequency distributions and normality of the data. Variables were screened for outliers in order to confirm that variables were naturally occurring, within realistic ranges, so that the result of the analyses will not be biased.

4.6.4. Bivariate Analysis

Bivariate analyses were performed between the outcome variable and all explanatory variables. Cross-tabulations were used to perform the bivariate associations. Chi square test of independence were used to check collinearity between all possible covariates in the study. In situations where2 by two tables were used, the tests that were reported were the phi coefficient, Pearson Chi-Square value, Continuity Correction and Effect size as recommended by (Pallant, 2013). However, for categories larger than 2 by 2 in the study, Cramer's V was reported because it takes into account the degrees of freedom (Pallant, 2013).

4.6.5. The Preparation for the Logistic Regression

As recommended by Tabachnick and Fidell (2013, p.482), the following checklist was checked for standard logistic with dichotomies outcome: major issues (ratio of cases to

variable and missing data, adequacy of expected frequencies, outliers, multicollinearity, linearity in the logit), major analysis (evaluation of overall fit, effect size of the model, evaluation of model without estimates, and finally additional analysis (odds ratio, classification).

Since Logistic regression applies a non liner log transformation to the preidceted odds ratio, It has the abilty to test all kinds of relartionships in a study. The current study applied essential assumptions necesaary for bianry Logistic regressins (Statistics Solutions, 2016). Binary logistic regression requires the dependent variable to be binary and it assumes that P (Y=1) is the probability of the event occurring. For a binary regression, the factor level 1 of the dependent variable should represent the desired outcome; therefore, the dependent variables in this study was coded accordingly (Statistics Solutions, 2016).

In order to avoid over fitting and under fitting of the model to the data, only meaningful predictors (predictors that were revealed in literature) were included in the model. Sample size limitations with regard to logistic regression were addressed in this study. Maximum likelihood estimates are less powerful than ordinary least squares in small sample sizes (pallent 2013). Since the sample size of the present study is relatively large, the minimum of 50 cases per predictor that has been reccomended was not violated (Burn & Burn, 2008).

One possible challenge with the use of small sample sizes with many predictors is that results fail to converge (Statistics Solutions, 2016). There were 1401 cases in the study sample from the GDHS. As mentioned, logistic regression cause a substantial distortion of the variance estimated by increasing standard error, which leads to both coefficients and the significance test becoming unreliable measures due to high degrees of inter-correlations between the independent variables (Statistics Solutions, 2016). In view of the above, "collinearity diagnostics" was carried out among the predictor variables to check for mulitcollineraty. Variance Inflation Factor (VIF) value under the 0.10 is an indicator of multicollinearity (Pallant, 2013, p. 164). Mulitcollineraty in the current study were found not to be violated, and therefore the assumptions of logistic regression were not violated (Pallant, 2013)

Since logistic regression requires proper coding of the dichotomous dependent variable, the value of zero was assigned to response that indicate a lack or absence of the characteristic of interest (Pallant, 2013). Similar approach was used when recoding all independent variables, so that high scores indicated good conditions, with the minimum score of zero and maximum of four.

The logistic regression analyses were performed in two stages: Selecting as a single unit analysis with stepwise procedure and in the second part, with backward LR selection only 7 variables which were found statistically significantly associated to fertility ideals (positive and non-positive deviants) In order to determine the risks levels or factors associated with not achieving positive deviant status.

4.7. Ethical Considerations

The study used data from the DHS Ghana, which was already ethically approved for research purpose. The DHS Program follows several special precautions and maintains strict standards to protect the privacy and well-being of household members in all DHS surveys; in the informed consent statement, it has been emphasized that '*participation is voluntary´* and protocol ensures that neither the individual nor the household can be identified (GDHS, 2015). Each respondent is identified only by a series of numbers, and after data processing, questionnaire cover sheets containing these identifier numbers are destroyed, and household numbers are randomly reassigned, the latitude and longitude positions were randomly displaced for all surveys (GDHS, 2015).

Procedures and questionnaires for standard DHS surveys have to be reviewed and approved by the ICF International Institutional Review Board (IRB). The ICF IRB and an IRB (that ensures that the survey complies with laws and norms of the nation) in the host country reviews country-specific DHS survey protocols. They have to ensure that the survey complies with the U.S. Department of Health and Human Services regulations for the protection of human subjects (45 CFR 46) (GDHS, 2015).

CHAPTER 5
RESULTS

This chapter has five sections. The first section presents the univariate analysis on the total eligible men according to the fertility ideals. The second section presents the preliminary descriptive statistics of the variables. Section three highlights the univariate analysis on gender and social determinants of the positive deviants. Section four explains the bivariate analysis, and section five analyzes the binary logistic regression.

There are three research objectives in this study: (1) to assess the social determinants of positive deviants. (2) To assess the determinants of gender attitudes among positive deviants. (3) To examine the value of the characteristics of young men in Ghana in describing potentially related fertility aspirations and test how well they are associated with ideals of family size.

5.1. The Univariate Analysis on the Total Eligible Men

Tables 5.1, 5.2 and 5. 3 (Appendix 6) show the detailed breakdown of the total sample (N=4388) in order to understand the fertility ideals of all the eligible men who were interviewed during the study (The fertility preferences of the total eligible men in the study, N=4388). The total number of men whose ideal number of children ranged between 1 and 3 was 1247 (Table 5.1).

Total sample was divided into two groups based on age, young (15-24) (1509) and adults (25-59) (2879) (Table5. 2). Again the men were classified into three groups according to the children ever born to them, as 1-3 and >3, or as having no children. (The rationalization of the "***positive deviants***" was itemized in chapter 3).

Table 5.1: Children Never Ever Born and Ideal Number of Children in 3 Groups

Children Never Ever Born	Ideal Number of Children 3 Groups			Total
	0	1-3	4<	
Never Born	28	713	1188	1929
1-3	2	395	767	1164
4<	5	139	1151	1295
Total	35	1247	3106	4388

N=4388

The total number of positive deviants* is 485 in Ghana, and it was 11.05 % of the total sample, while the total number of non-positive deviants** in Ghana was 925 (21%). The total number 485(positive deviants) +925 Non-positive deviants = 1401 was chosen for the further analysis. Table 5.3 (Appendix 6) shows the detailed breakdown of the total men who were eligible for the GDHS 2014.

Table 5.2: Ideal Number of Children Young and Adult with Children Never Ever Born

Young and Adult	Children never ever born	Ideal Number of Children 3 Groups			
		0	1-3	4<	Total
Young 15-24	Never Born	22	***485**	****925**	1432
	Ever Born	0	27	50	77
	Total	22	512	975	1509
Adult 25-59	Never Born	6	228	263	497
	Ever Born	7	507	1868	2382
	Total	13	735	2131	2879
Total	Never Born	28	713	1188	1929
	Ever Born	7	534	1918	2459
	Total	35	1247	3106	4388
		0.8%	28.4%	70.8%	100%

N=4388, positive deviants*. Non positive deviants **

5.2 The Basic descriptive analysis of the variables

Initial descriptive analyses of socio-demographic characteristics were run on the study participants (N=1401). See Table 5.4 .Mean age was 18.77 years, though the range was between 15 and 24. (±2.72). When considering the total number of years of education, the mean value was 8.9 (±4.20).

Table 5.4. Descriptive Statistics of the Continues Variables of the Study.

	N	Minimum	Maximum	Mean	Std. Deviation
Current Age	1401	15	24	18.77	2.723
Ideal Number Of Children	1401	1	18	4.28	1.762
Total Number Of Years Of Education	1401	0	16	8.93	4.210
Valid N (List Wise)	1401				

5. 3. Univariate Analysis of both positive and non-positive deviants (N =1401)

The study sample mostly consisted of younger participants (15-19), 866 (61.8%) while 535, (38.2%) belonged to (19- 25) age group. The majority of the study resided in rural areas, 751 (53.6%) while 641 and (45) % lived in urban areas. (Data were missing for 1.4 % of the sample). 560 young men (40%) had Akan ethnicity while 351 (25.1%), had Mole Dagbani ethnicity. 162 (11.6 %) of the study sample participants were of Ewe ethnicity. 156 (11.1%) participants lived in the Westernregion and 154 (11%) lived in the Northern region. The proportion of sample participants who lived in Brong Ahafo and Upper East was quite similar (153, 10.9%) (refer to Table 5.5 (part 1 & Part 2).

Among the study participants 304 (21.7%) were Muslim while 382 (27.35%) and 217 (17 %) were Pentecostal and Charismatic respectively. Other participants responded that they were other Christians. The study sample mostly consisted of the poorest group, 429 (30.6%) while the richest group had 177 (12.6%) participants. 18.2% (253) of respondents belonged to the middle wealth quintiles, while 255 (18.2%) of respondents belonged to the poorer wealth quintiles. The majority of the participants (1042, 74.4%) lived in households with male heads, while only 359 lived in female-headed household. Among the study participants, 193 (13.8%) identified as being the 'head of the family'. Among the young men, 148 (10.6%) lived in another family, while the majority, 1060 (75.7%) reported that they lived with their own family. 1379 (98 %) sample participants had never married or been in a union. (refer to Table 5.5 (part 1 & Part 2).

In the study sample, 57 (4.4 %) of respondents reported that they had no education, while 275 (19.6 %) had partially or fully completed primary education. The majority in the sample (1069, 76.3%) had partially or fully completed secondary level education.

Table 5.5 (Part1): **Univariate Analysis of both positive and non-positive deviants (N =1401)**

Variable		Frequency	%	Valid %
Age	15-19	866	61.8	61.8
	19-24	535	38.2	38.2
Type of Place of Residence	Urban	631	45.0	45.7
	Rural	751	53.6	54.3
	Total	1382	98.6	100.0
	System	19	1.4	
Region	Brong Ahafo	153	10.9	23.4
	Upper East	153	10.9	27.3
	Northern	154	11.0	17.3
	Western	156	11.1	33.7
	Other	785	56.0	54.5
	Total	1401	100.0	100.0
Ethnicity	Ewe	162	11.6	11.6
	Mole Dagbani	351	25.1	25.1
	Akan	560	40.0	40.0
	Other	328	23.4	23.4
	Total	1401	100.0	100.0
Religion	Other Christian	243	17.3	17.3
	Islam	304	21.7	21.7
	Pentecostal/Charismatic	382	27.3	27.3
	Other	472	33.7	33.7
	Total	1401	100.0	100.0
Wealth Index	Richest	177	12.6	12.6
	Richer	257	18.3	18.3
	Middle	255	18.2	18.2
	Poorer	283	20.2	20.2
	Poorest	429	30.6	30.6
	Total	1401	100.0	100.0
Level of the Education	No Education	57	4.1	4.1
	Partially or Complete Primary	275	19.6	19.6
	Partially or Complete Secondary	1069	76.3	76.3
Marital Status	Ever Married or in union	22	1.6	1.6
	Never Married or in union	1379	98.4	98.4
	Total	1401	100.0	100.0

Table 5.5.2 (part 2): **Univariate Analysis of both positive and non-positive deviants (N =1401**

Variable		Frequency	%	Valid %
	Female	359	25.6	25.6
	Male	1042	74.4	74.4
	Total	1401	100.0	100.0
Position of the Household	Living with other family	148	10.6	10.6
	Head	193	13.8	13.8
	Living with own family	1060	75.7	75.7
	Total	1401	100.0	100.0
Working status	Not working	544	38.8	38.8
	Working	857	61.2	61.2
	Total	1401	100.0	100.0
	Total	1401	100.0	100.0
Gender1	Absence	285	20.3	20.5
	Presence	1106	78.9	79.5
Total	Total	1391	99.3	100.0
	Missing	10	.7	

N=1401

5.4.1 Univariate Analysis of the Social Determinants of the Positive Deviants

With reference to Table 5.6 part 1 & part 2 , the sample (N=485) included 295 (60.8%) young men in the age group 15-19, while 190 (39.2%) were in the age group 20-24. 282 (58.1%) sample participants resided in urban areas, while 203 (41.9%) resided in rural areas. The highest number of positive deviants, 68 (14%) lived in Greater Accra and the second highest, 67 (13.8 %) lived in Ashanthi. The eastern region showed the third highest population of participants (66 13.6%), while the Westernregion had the fourth highest population (63, 9.5 %) of the positive deviants. The lowest number was 14 (2.9 %) from the Northern region.

When considering ethnicity, the highest number 263 (54.2 %) belonged to Akan Ethnic group, while Mole-Dagbani represented the second largest group (66, 13.6 %). The lowest was recorded from the Mende ethnic group that was 4 (0.8%). The sample included 159 (33.2%) Pentecostal/charismatic men, while there were 102 other Christians (21%). However, Islam represented only 11.1 % (54).

In terms of level of education, the highest number of positive deviants 388 (80%) had partially or fully completely finished secondary education. The total number of men who did not have any education was 7 (1.4 %), while the total number of men who had the highest educational level was 35 (7.2 %). The total sample (N=485) included only 4 (0.8 %) men who were married, while 6 (1.2%) lived with a partner. The majority, 475 (97.9 %), had never been married or in union.

276 respondents were currently working, while 209 were currently not working. The occupational group that consisted of the highest number of men (89, 18.4%) was agriculture-self-employed, while the second highest (56, 11.6 %) was skilled manual. Professional/technical/managerial and unskilled manual categories constituted 38 (7.9%) and 37 (7.6 %) respectively. The sample included 33(6.8%) sales people and 6 (1.2%) clerical workers.

Referring to the table 5.6 , male-led households represented the majority 327 (67.45), while the sample included 158 (32.6%) female-led households. With reference to the position of the household, the majority (302, 62.3 %.) was the son of the family, while the role of the head of the household was 15.9 % (77). The sample (N=485) constituted 36 (7.4%) grandsons, 23 (4.7%) and 8 (1.65%) adopted and foster children, while 32 (6.6%) reported that they belonged to the category of “other relatives”.

Table 5.6: Social Determinants of the Positive Deviants Part 1

Variable		N	Valid %	Variable		N	Valid %
Age group	15-19	295	60.8	Ethnicity	Akan	263	54.2
	20-24	190	39.2		Ga/Dangme	30	6.2
	Total	485	100.0		Ewe	63	13.
Region	Western	63	13.0		Guan	9	1.9
	Central	46	9.5		Mole-Dagbani	66	13.6
	Greater Accra	68	14.0		Grusi	16	3.3
	Volta	47	9.7		Gurma	21	4.3
	Eastern	66	13.6		Mande	4	.8
	Ashanti	67	13.8		Other	13	2.7
	Brong Ahafo	56	11.5		Total	485	100
	Northern	14	2.9	Level of Education	No education	7	1.4
	Upper East	34	7.0		Primary	55	11.3
	Upper West	24	4.9		Secondary	388	80
	Total	485	100		Higher	35	7.2
Type of Place of Residence	Urban	282	58.1		Total	485	100
	Rural	203	41.9	Wealth index	Poorest	70	14.4
	Total	485	100		Poorer	93	19.2
Religion	Catholic	67	13.8		Middle	97	20.0
	Anglican	2	.4		Richer	126	26.0
	Methodist	34	7.0		Richest	99	20.4
	Presbyterian	39	8.0		Total	485	100.
	Pentecostal/charismatic	159	32.8	Sex of the household head	Male	327	67.4
	Other Christian	102	21.		Female	158	32.6
	Islam	54	11.1	Position to the Household	Head	77	15.9
	Traditional/spiritualist	6	1.2		Son	302	62.3
	No religion	22	4.5		Grandson	36	7.4
	Total	485	100		Brother	23	4.7
Marital status	Never in union	475	97.9		Other relative	32	6.6
	Married	4	.8		Adopted/foster child	8	1.6
	Living with partner	6	1.2		Not related	7	1.4
	Total	485	100		Total	485	100

Table 5.6: Social Determinants of the Positive Deviants Part 2

Variable		N	Valid %
Currently working	Not working	209	43.2
	Working	276	56.8
	Total	485	100
Occupational group			
	Professional/technical/managerial	38	7.9
	Clerical	6	1.2
	Sales	33	6.8
	Agriculture - self employed	89	18.4
	Agriculture - employee	9	1.9
	Services	7	1.4
	Skilled manual	56	11.6
	Unskilled manual	37	7.6
	Total	484	99.99
	Missing	1	.001
		485	100

5.4.2 The Univariate Analysis on Gender Determinants of the Positive Deviants

Table 5.7 presents the univariate analysis of the gender determinants of the positive deviants (N= 485) Among the study participants (N=485), 415(85.6%) and 94 (19.4 %) recorded the presence of gender attitudes. Data were missing for 0.4% of the sample

Table 5.7. Univariate analysis of Gender determinants of the study

Variable		N	%
Gender Attitude	Presence	415	85.6
	Absence	68	14.0
	Total	483	99.6
	Missing	2	.4
	Total	485	100.0

N=485

5.5 Bivariate Analysis

Table 5.8 and 5.9 present the bivariate analysis of the gender determinants and the social determinants of the study. The total sample (N=1401) included 485 positive deviants and 925 non-positive deviants.

5.5.1 Gender determinants.

Referring to table 5.8 , the total sample (N=1391) included 1106 (79.5%) men who have gender attitude; among those were 415 positive deviants (85.9% within the positive deviants of 483) and 691 (76.1% within the non-positive deviants of 908) non-positive deviants. Data were missing for 0.7 % of the sample.

A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between positive and non-positive deviants and gender attitude indicator 1, $\chi 2$ (1, n = 1391) = 18.06, P = .000, phi = .17

Table 5.8. Bivariate Analysis -Gender Determinants of the Positive and Non-Positive Deviants

Variable	Non positive deviants				Positive deviants				Total	
	N	% Within V	% Non-positives	% Total	N	% Within V	% Positives	% Total	N	% Total
Gender attitude										
Absence	217	23.9%	15.6%	68	14.1%	4.9%	285			20.5%
Presence	691	76.1%	49.7%	415	85.9%	29.8%	1106			79.5%
Total	908	100%	65.3%	483	100%	34.7%	1391			100%

N=1391, Missing =0.7%

5.5.2 Bivariate Analysis -Socio Demographic Determinants of the Positive and Non-Positive Deviants

Age groups

Bivariate analyses of socio demographic characteristics were run on study participants (N=1401). (Table 5.9). The total sample included 345 (24.6% of N=1401) non-positive deviants and 190 (13.6% of N=1401) positive deviants who were in the age group 15-19, while 571 (40.8% of N=1401) non-positives and 295 positive deviants (21.1% of N=1401) were in the age group 20-24.

A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between positive and non-positive deviants and age groups, $\chi 2$ (1, n =

1401) = .25, p = .58, phi = .02

The Type of place of residence

The sample included 631 (353, 55.9 % of N=1382 non-positive deviants and 278, 20.1% of N=1382 positive deviants) living in urban areas, while 751 (552, 39.9% of N=1382 non-positive deviants and 199, 14.4 % of N=1382 positive deviants) lived in rural areas. Data were missing for 1.3 % of the sample). A Chi-square test for independence indicated no significant association between positive and non-positive deviants and type of place of residence, $\chi 2$ (1, n = 1382) = 46, p = .000, phi = -.18

Region

The majority of the positive deviants 63(4.5% of N=1401) lived in the Western region and the majority of the non-positives 140 (10 % of N=1401) lived in the Northern region. The Western region showed the highest number of total participants (156, 11.1 % of N=1401). The number of non-positives living in Brong Ahafo was 97 (6.9% of N=1401) while the total number of positive deviants living there was 56, (4% of N=1401). 119 (8.5% of N=1401) non-positive deviants and 34, (2.4% N=1401) positive deviants lived in Upper East. The total sample (N=1401) included 14 (9.1 %) positive deviants who lived in the Northern region and 467, (33.3 % of N=1401) non-positive deviants, while 318 (22.7 % of N=1401) positive deviants and 467 (33.3%) non-positive deviants lived in the region, which was categorized as "other regions".

A Chi-square test for independence indicated significant association between positive and non-positive deviants and Region, $\chi 2$ (4, n = 1401) = 69, p = .000, phi = .22

3. Ethnicity

The majority of respondents, 560 (40 % of N =1401) belonged to the Akan Ethnic group and there were 297 (21.2 % of N =1401) non-positive deviants and 263 (18.8 % of N =1401) positive deviants, while Mole Dagbani, at 351 (25.1 %) represented the second largest group, which included 285 (20.3 % of N =1401) non-positive deviants and 66 (4.7 % of N =1401) positive deviants. There were 99 (7.1% of N =1401) non-positive deviants and 63 (4.5 % of N =1401) positive deviants belonging to the Ewe ethnic group. All-other ethnic groups represented less than 23.4 % (328). A Chi-square test for independence indicated significant

association between positive and non-positive deviants and ethnicity, $\chi 2$ (3, n = 1401) = 83, P = .000, phi = .24

Religion

The majority of respondents, 382 (27.3 % of N=1401), were Pentecostal/charismatics, which included 223 (15.9 % of N=1401) non-positive deviants and 159 (27.3% of N=1401 positive deviants, while the second largest (243, 17.3 % of N=1401) affiliation was "other Christians", which included 141 (10.1 % of N=1401) non-positive deviants and 102, (7.3 % of N=1401) positive deviants. 304 young men (21.7%) claimed Islam as their religion, which included 250 (17.8 % of N=1401) non-positive deviants and only 54 (3.9 % of N=1401) positive deviants. A Chi-square test for independence indicated no significant association between positive and non-positive deviants and religion, $\chi 2$ (3, n = 1401) = 53, p = .000, phi = .19

Wealth index

The majority (429, 30.6% of N=1401) of the sample was from the poorest wealth quintile (359, 25.6% of N=1401 non-positive deviants and 70, 5 % N=1401 positive deviants). The richest and richer response categories constituted 177 (78, non-positive deviants and 99 positive deviants, and 257 (131 non -positive deviants and 126) respectively. A good percentage age of, 18.2%, 255 (158 11.3% of N=1401 non -positive deviants and 97 6.9. Percentage of N=1401 belonged to the middle wealth quintile, while 283, 20.2 % respondents (190 13.6% of N=1401 non -positive deviants and 70.5 % of N=1401) constituted the poorer wealth quintile.

A Chi-square test for independence indicated significant association between positive and non-positive deviants and wealth index, $\chi 2$ (4, n = 1401) = 124.3, p = .000, phi = .3

Education

The greatest proportion of 76.3%, 1069 respondents had higher education level, which included 646, 46.1 % of N=1401 non-positive deviants and 423, 30.2 % of N=1401 positive deviants), while 275 (19.6%) had (partially or fully) completed secondary school (220, 15.7% of N=1401non -positive deviants and 55, 3.9 % N=1401 positive deviants). Men who did not have any education was 57 (1.5.7 percentage), which included 50, 3.6 % N=1401 non-positive deviants and 7 (0.5 % of N=1401) positive deviants. A Chi-square test for

independence indicated no significant association between positive and non-positive deviants gender and level of education, $\chi 2$ (2, n = 1401) = 50.1, p = .000, phi = .19

Marital status

Of the majority, 1379, 98.4 % of N=1401who were never married or in union, there were 904, 64.5 % N=1401 non-positive deviants and 475, 33.9 % of N=1401 positive deviants, while 22 (1.6 % of N=1401) men claimed that they were married or living with a partner which constituted 12, 0.9 % of N=1401non-positive deviants and 10, 0.7 % of N=1401 positive deviants. A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between positive and non-positive deviants and marital status, $\chi 2$ (1, n = 1401) = .72, p = .39, phi = -.03

Sex of the household Head

A sizeable percentage age of 74.4% of the respondents (1042) lived in male led households, which included 715, 51% of N=1401 non-positive deviants and 327, 23.3 % of N=1401 positive deviants. The rest of the sample, 359, 25.6 % of N=1401 were from female headed households, which contained 201, 14.3 % of N=1401non-positive deviants and 158, 11.3 % of N=1401 positive deviants.

A Chi-square test for independence (with Yates Continuity Correction) indicated significant association between positive and non-positive deviants and sex of the household head, $\chi 2$ (1, n = 1401) = 18.26, p = .000, phi = .116

Position of the household

The majority of respondents (1060, 75.7 %) were living with their own family, and among those 699, 49.9 % were non-positive deviants while there were 361 25.8 % of N=1401 positive deviants. Among the participants, there were 193 heads of the household (116, 8.3 % of N=1401 non -positive deviants and 47, 3.4% of N=1401% positive deviants). The sample included 148, (10.6 %) men who were living with another family (101, 7.2 of N=1401 non - positive deviants and 47, 3.4 % N=1401 of positive deviants).

A Chi-square test for independence indicated no significant association between positive and non-positive deviants and position of the household, $\chi 2$ (2, n = 1401) = 3.06 p = .21, phi = .04

Table 5.9 (Part 1): Bivariate Analysis Social Determinants and Positive and Non-Positive Deviants

Variable	Non positive deviants				Positive Deviants				Total	
	N	% V	% Non	% T	N	% V	% Positive	% Total	N	% Total
Age group- $\chi 2$ (1, n = 1401) = .25, p = .58, phi = .02										
20-24	345	64.5	37.7	24.6	190	35.5	39.2	13.6	535	38.2
15-19	571	65.9	62.3	40.8	295	34.1	60.8	21.1	866	61.8
Total	916	65.4	100	65.4	485	34.6	100	34.6	1401	100.
Type of place of residence- $\chi 2$ (1, n = 1382) = 46, p = .000, phi = -.18										
Urban	353	55.9	39.0	25.5	278	44.1	58.3	20.1	631	45.7
Rural	552	73.5	61.0	39.9	199	26.5	41.7	14.4	751	54.3
Total	905	65.5	100.0	65.5	477	34.5	100.	34.5	1382	100.
Region $\chi 2$ (3, n = 1401) = 53, p = .000, phi = .19										
Brong Ahafo	97	63.4	10.6	6.9	56	36.6	11.5	4.0	153	10.9
Upper East	119	77.8	13.	8.5	34	22.2	7.	2.4	153	10.9
Northern	140	90.9	15.3	10.0	14	9.1	2.9	1.0	154	11.0
Western	93	59.6	10.2	6.6	63	40.4	13.0	4.5	156	11.1
Other	467	59.5	51.0	33.3	318	40.5	65.6	22.7	785	56.0
Total	916	65.4	100.	65.4	485	34.6	100.	34.6	1401	100.
Ethnicity- $\chi 2$ (3, n = 1401) = 83, P = .000, phi = .24										
Ewe	99	61.1	10.8	7.1	63	38.9	13.0	4.5	162	11.6
Mole Dagbani	285	81.2	31.1	20.3	66	18.8	13.6	4.7	351	25.1
Akan	297	53.	32.4	21.2	263	47.0	54.2	18.8	560	40.
Other	235	71.6	25.7	16.8	93	28.4	19.2	6.6	328	23.4
	916	65.4	100	65.4	485	34.6	100.	34.6	1401	100.
Religion $\chi 2$ (3, n = 1401) = 53, p = .000, phi = .19										
Other Christian	141	58.	15.4	10.1	102	42.0	21.0	7.3	243	17.3
Islam	250	82.2	27.3	17.8	54	17.8	11.1	3.9	304	21.7
Pentecostal/Charismatic	223	58.4	24.3	15.9	159	41.6	32.8	11.3	382	27.3
Other	302	64.0	33	21.6	170	36.0	35.1	12.1	472	33.7
Total	916	65.4	100	65.4	485	34.6	100	34.6	1401	100.
Wealth index - $\chi 2$ (4, n = 1401) = 124.3, p = .000, phi = .3										
Richest	78	44.1	8.5	5.6	99	55.9	20.4	7.1	177	12.6
Richer	131	51.0	14.3	9.4	126	49.0	26.0	9.0	257	18.3
Middle	158	62.0	17.2	11.3	97	38.0	20.0	6.9	255	18.2
Poorer	190	67.1	20.7	13.6	93	32.9	19.2	6.6	283	20.2
Poorest	359	83.7	39.2	25.6	70	16.3	14.4	5.0	429	30.6
Total	916	65.4	100.0	65.4	485	34.6	100.	34.6	1401	100.

Table 5.9 (Part 2): Bivariate Analysis- Social Determinants of the Positive and Non-Positive Deviants

Variable	Non positive deviants			Positive Deviants					Total	
	N	% V	% Non	% T	N	% V	% Positive	% Total	N	% Total
Level of Education- $\chi 2$ (2, n = 1401) = 50.1, p = .000, phi = .19										
No Education	50	87.7	5.5	3.6	7	12.3	1.4	0.5	57	4.1
Primary	220	80	24.0	15.7	55	20.	11.3	3.9	275	19.6
Secondary	646	60.4	70.5	46.1	423	39.6	87.2	30.2	1069	76.3
Total	916	65.4	100	65.4	485	34.6	100	34.6	1401	100.
Marital status- $\chi 2$ (1, n = 1401) = .72, p = .39, phi = -.03										
Ever Married or in union	12	54.5	1.3	0.9	10	45.5	2.1	0.7	22	1.6
Never Married or in union	904	65.6	98.7	64.5	475	34.4	97.9	33.9	1379	98.4
Total	916	65.4	100	65.4	485	34.6	100	34.6	1401	100.
Sex of the household sex- $\chi 2$ (1, n = 1401) = 18.26, p = .000, phi = .116										
Female	201	56.0	21.9	14.3	158	44.0	32.6	11.3	359	25.6
Male	715	68.6	78.1	51.0	327	31.4	67.4	23.3	1042	74.4
Total	916	65.4	100.	65.4	485	34.6	100.	34.6	1401	100
Position of the family- $\chi 2$ (2, n = 1401) = 3.06 ,p = .21, phi = .04										
Living with other family	101	68.2	11	7.2	47	31.8	9.7	3.4	148	10.6
Head	116	60.1	12.7	8.3	77	39.9	15.9	5.5	193	13.8
Living With Own Family	699	65.9	76.3	49.9	361	34.1	74.4	25.8	1060	75.7
Total	916	65.4	100	65.4	485	34.6	100	34.6	1401	100.

5.6 Binary Logistic Analysis and Risk Factors

Binary logistic regression was performed to assess the impact of a number of factors on two types of fertility ideals of young men (referred to as positive and non-positive deviants). The Final model contained 6 independent variables divided into two main groups' gender and SEC characteristics. Analysis was performed using SPSS logistic.

As mentioned in chapter there, this study has two hypotheses:
H0: All the coefficients in the regression equation take the value zero.
H1: The model with predictors are accurate and differs significantly from the null of zero

The full model containing all predictors was statistically significant, $\chi 2$ (16, N = 1391) = 219.77, p < .001, indicating that the model was able to distinguish between respondents who were positive and non-positive deviants. The model as a whole explained between 14.6% (Cox and Snell R square) and 20.2% (Nagelkerke R squared) of the variance in fertility ideals, and correctly classified 65.3% of cases. As shown in Table 5.10, all predictors were significant, thus made a unique contribution to the model. Therefore, the study was unable to reject the null hypothesis. Table 5.10 shows regression coefficients, Wald statistics, odds ratios, and 95% confidence intervals for odds ratios for each of the variables.

Wealth Index

Looking first at the results for wealth index, there is a highly significant overall effect (Wald=49.68, df=4, p= 000), after accounting for other factors. The b coefficients for all wealth quintiles are significant and negative except the "richer" category, indicating that increasing wealth is associated with increased odds of achieving *positive deviant status.* In the analysis, the odds ratio for achieving positive deviant status was 0.777 for the richer quintile, (p=0.215 <0.05) (with a 95 % confidence interval ranging from 0.521 lower to upper 1.158) and was not significant compared to the richest, which was the reference category. The odds ratio for achieving positive deviant status for the middle quintile was 0.524, (0.05 >p=0.002) (with a 95 % confidence interval ranging from lower 0.347 to upper 0.790) compared to the reference category of the richest wealth quintile, and was significant after controlling for other factors.

The odds ratio for achieving positive deviant status for the poorer quintile was 0.44,) with (with a 95 % confidence interval ranging from lower 0.290 to upper 0.668), compared to the richest wealth quintile and was significant, (p=0.000<0.05) after controlling for other factors. The odds ratio for achieving positive deviant status for the poorest wealth quintile was 0.214, (with a 95 % confidence interval ranging from lower 1.89 to upper 11.33) compared to the reference category, richest wealth quintile and was highly significant (p=0.000<0.05) after controlling for other factors. This indicates that young men in Ghana in the middle, poorer and poorest wealth quintiles were .524, .441 and .214 times less likely to achieve positive deviant status when compared to the reference category of the richest wealth quintile after controlling for other factors.

Position in the household

The odd ratios of position of the household were protective, ranging from 1.671 to 1.561 in the head of the family to living with own family compared to the living with another family reference category, which was not significant (0.05>p=066). This indicated that young men who were the head of the family were about 1.673 times more likely to achieve positive deviant status compared to young men who belonged to other family categories (with a 95 % confidence interval ranging from lower 1.022 to upper 2.738) after controlling for other factors. Young men who lived with their own family were 1.578 more likely to achieve positive deviant status compared to young men who lived with another family (with a 95 % confidence interval ranging from lower 1.055 to upper 2.361) after controlling for other factors.

Religion

Referring to table 5.10, there is a highly significant overall effect for the religion variable (Wald=25.095, df=3, p=. 000) after controlling for other factors. In the final analysis, the odds ratio for achieving positive deviant status was 0.417 for the men who were Muslim (with a 95 % confidence interval ranging from lower 0.273 to upper 0.638) compared to the reference category of other Christian and this was highly significant with negative sign. (0.05> p=0.000) when all other factors are controlled. The odds ratio for achieving positive deviant status for Pentecostal charismatic was 1.068, (with a 95 % confidence interval ranging

from lower 0.752 to upper 1.515) compared to the reference category other Christian and was not significant the (p=0.713> 0.05) when all other factors are controlled. The odds ratio for achieving positive deviant status for the other religion was .727 (with a 95 % confidence interval ranging from lower 0.723 to upper 1.425) compared to the other Christian reference category and was not significant (0.05 < p=0.931) when all other factors are controlled.

Sex of the household Head

The overall effect of the sex of the household head is also significant and showed the negative effect (Wald=5.031, df=1,p= 0.025), (with a 95 % confidence interval ranging from lower 0.549 to upper 0.960) indicating that male led households were less likely to achieve positive deviant status, when all other factors are controlled.

The 0.726 odds ratio indicates that, for each one unit (person) increase on the male household head scale there was (0.726-1)*100 = 27.4 %) by a factor of 27.4% or (1.377) times of the odds that the respondent would not achieve the positive deviant status. In other words negative B values indicates that category which did not presented here (female household head) were more likely to aspire positive deviant status.

Region

With reference to table 5.10, there is a significant and overall negative effect for the region variable (Wald=9.612 df=4, p= 0.047) after controlling for other factors. The reference category is Brong Ahafo. Young men who lived in the upper Northern region were about 0.836 times more likely to achieve positive deviant status compared to young men who lived in Brong Ahafo (with a 95 % confidence interval ranging from lower 0.476 to upper 1.469) when all other factors are controlled. The young men who lived in the Western region were 0.175 times less likely to achieve positive deviant status than young men who lived in Brong Ahafo (with a 95 % confidence interval ranging from lower 0.480 to upper 1.299) when all other factors are controlled.

Gender Attitude

The overall effect of the Gender attitude was also significant and showed the positive effect (Wald=11.415, df=1, p= .001), indicating that young males who bearded gender attitude were

more likely to achieve positive deviant status after accounting for other SEC factors (with a 95 % confidence interval ranging from lower 1.262 to upper 2.402). Gender attitude recorded an odds ratio of 1.74. This indicated that likelihood of change in gender attitude on the basis of a 1.741 unit in fertility ideal, indicating that increasing presence of gender attitude is associated with increased odds of achieving fertility ideals ranged 1-3. In other words, The 1.714 odds ratio indicates that, for each one unit (person) increase that has gender attitude 1.714 times of the odds that the respondent would achieve the positive deviant status.

Education

The overall association between fertility ideals and secondary level or higher education remains significant, as indicated by the overall Wald statistic. (Wald=6.568, df=1, p=0.010) indicating that young males who have achieved secondary or higher level education level were more likely to achieve positive deviant status, with a 95 % confidence interval ranging from lower 1.89 to upper 11.33, when all other factors are controlled. The 1.561 odds ratio indicates that, for each one unit (one person) increase of the young male who have achieved secondary or higher level education the odds ratio 1.561 times as large and therefore those are 1.561 more times likely belongs to the positive deviant group when compared to those young men who had not completed their secondary education or higher level education partially or completely.

Table 5.10: Logistic Analysis

	B	SE	Wald	df	p	OR	95% CI for odds ratio	
							Lower	Upper
Wealth Index quintiles – Richest is reference								
Richest			49.683	4	.000			
Richer	-.253	.204	1.538	1	.215	.777	.521	1.158
Middle	-.647	.210	9.528	1	.002	.524	.347	.790
Poorer	-.821	.213	14.815	1	.000	.440	.290	.668
Poorest	-1.542	.237	42.187	1	.000	.214	.134	.341
Position of the house hold - Living with other family is reference								
Living with other family			5.442	2	.066			
Head	.515	.251	4.189	1	.041	1.673	1.022	2.738
Living with the own family	.456	.205	4.934	1	.026	1.578	1.055	2.361
Religion - Other Christian is reference								
Other Christian			25.095	3	.000			
Islam	-.874	.217	16.242	1	.000	.417	.273	.638
Pentecostal /Charismatic	.066	.179	.135	1	.713	1.068	.752	1.515
Other	.015	.173	.008	1	.931	1.015	.723	1.425
Sex of the household								
Male	-.320	.143	5.031	1	.025	.726	.549	.960
Region - Brong Ahafo is reference								
Brong Ahafo			9.612	4	.047			
Upper West	-.179	.288	.387	1	.534	.836	.476	1.469
Northern	-1.045	.345	9.182	1	.002	.352	.179	.691
Western	-.236	.254	.866	1	.352	.789	.480	1.299
Other	-.181	.202	.809	1	.369	.834	.562	1.238
Gender Attitude-								
Presence of the Gender attitude	.555	.164	11.415	1	.001	1.741	1.262	2.402
Education								
Secondary Education	.445	.174	6.568	1	.010	1.561	1.110	2.194
Constant	-.516	.408	1.600	1	.206	.597		

Overall model fit estimates: 14.6% (Cox and Snell R square) and 20.2% (Nagelkerke R squared)

(16, N = 1381) = 219.77, $p < .001$, 69.5% of cases correctly classified.

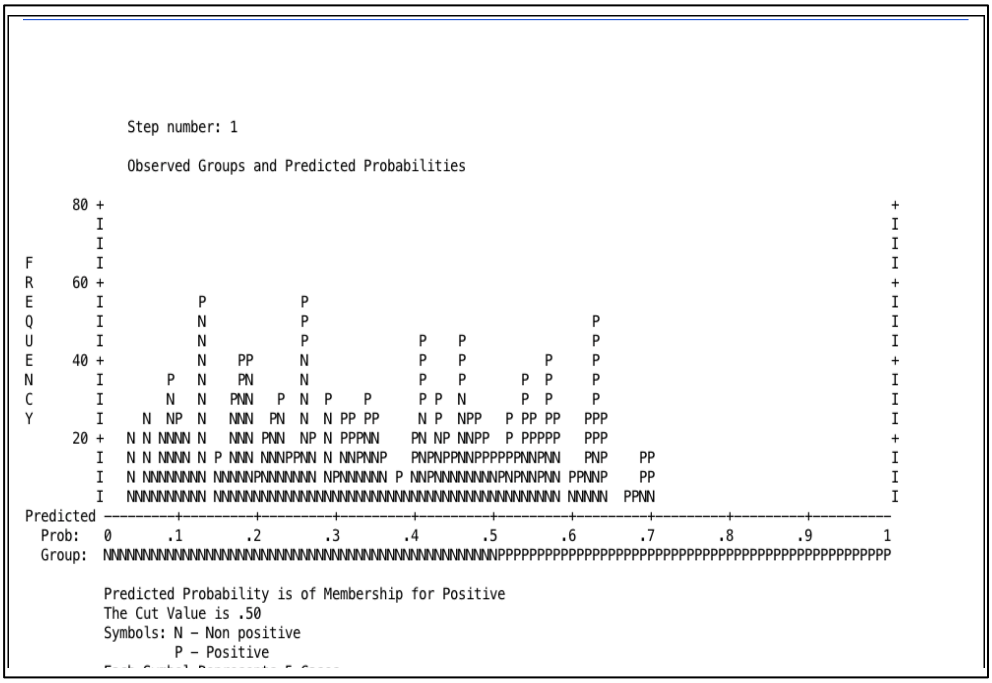
O.R. indicates odds ratio while C.I. indicates confidence intervals

5.6.1 Classification Plot of the Binary Logistic Analysis

The classification plot or histogram explains the finer details, which were shown in the classification table of the output (See the figure 1). Inside the plot are columns of observed P's and N's for positive and non-positive deviants and the cut value is .5. Figure 5.1 shows that quite a lot of cases are actually in the middle area of the plot, indicating that the model is

Predicting a probability of around 50% (or a 50:50 chance) that positive deviant status will be achieved. Even though the final model identifies that religion, region, education, position of the household, sex of the household head, and gender attitudes were significantly associated with the outcome, and indeed only explains 20.2 % of the variance in fertility outcome (Nagelkerke pseudo-R2), This value is important because it confirms that the above predictors are not sufficient enough to determine the fertility outcomes in Ghana (although they are significantly associated with it). There are substantial personal and social characteristics, which explain why the variability cannot be explained only by gender and social determinants.

Figure 5 1: Classification Plot.



CHAPTER SIX
FINDINGS AND DISCUSSION

The purpose of chapter six is to convey the meaning and importance of the findings and then to situate them in the context of the existing literature. The section one presents the summary of the results while the section two presents the discussion on results.

6.1 Summary of the Results

Among the total eligible men in the study, (N=4388) Total number of men whose ideal number of children 1-3 was 1247. The selected sample was 1401. The total number of positive deviants is 485, 11.05 %, while the total number of non-positive deviants in Ghana was 925 (21%). The majority of the positive deviants were young, urban residents, lived in Greater Accra, had Pentecostal charismatic religious affiliations, and had Akan ethnicity. They had partially or fully completed secondary level education, belonged to richer households (not the richest), had never been married or entered into union, lived in a house hold with a female household head, and were usually the son of the family. Most were working in a comparatively high status and skilled jobs in the agricultural sector. Most importantly, the vast majority never justified wife beating; in other words, they never accepted IPV for any reason.

Additionally ,The results revealed that gender attitude, wealth index, region, religion, positions in the household, sex of the household head, and level of education were statistically significantly associated to fertility ideals.

6.2. Discussion on Results

6.2.1.This section comments on the research objectives 1) To assess the SEC determinants of positive deviants and research objective 3) To examine the value of the characteristics of young men in Ghana in describing potentially related fertility aspirations and test how well they are associated with ideal family size

6.2.1.1. Age*:* out of 5 positive deviants, 3 were in the age group 15-19, while the rest were in the age group 20-24.

Why does "Age" fail in describing association with ideal family size?

The current study worked only with young men between 15 and 24, divided into two groups (15-19) and (20-24) and found young men (15-19) tend to have lower fertility than 19-24 age group. Three other sets of study found the same results: Snow et al. (2013) study employed young men in the age group 15-24 in five East African countries (Ethiopia, Rwanda, Tanzania, Zambia and Uganda) found older age was associated with low fertility ideals. Olivier & Woden (2015) employed a young group (15-24) in their study on quantitative impacts of SEC on fertility and found similar results with the current study. Further one study on Europa, (Berrington, 2004) and Miller (1992) findings are accordance with the study. If the study had worked with men to the age of 59, it would have been possible to see the association between ideal family sizes and age, since age varies only aged 15-24 in this study. Gyimah et al. (2008) study among 2762 matched couples using GDHS data also observed a curvilinear relationship between age and the fertility.

Despite the curvilinear association, Isiugo-Abanihe (1994) in Nigerian study observed older age was associated with lower fertility aspirations in their study. However, that study further added "Men who would not depend on their children, nearly one and a half times more likely to want no more children relative to those who plan to rely on their children for old-age support" (p.159). In contrast, Olatoregun and colleagues (2014) observed that the patterns of older men was associated with a trend towards higher fertility, which most likely corroborates the findings of Isiugo-Abanihe (Isiugo-Abanihe, 1994).

Study findings are in contrast to low fertility nations; data from the British Household Panel Study (BHPS) on fertility in Europe demonstrated a different pattern of fertility aspirations (Berrington, 2004). Among older childless men, the proportion of those intending to have children was much lower, indicating that fertility intentions are affected by the stage of the development of the country, other SEC factors and attitudinal difference, such as pronatalism.

***6.2.1.2. Wealth*:** The majority of positive deviants were from households with good incomes (richer and richest). Among those richest were lower than richer group. The poorest people tend to have bigger family size and this agreed with the well-known universal negative relationship.

Why does wealth index succeed in describing association with ideal family size?

Wealth is shown to be a major factor that has a substantial influence on fertility in Ghana even with other SEC factors included, and not surprisingly this study's findings showed the causality with a wealthy fertility association. And reminds the ("Age Patterns of Fertility: United States, Japan, and Ghana," 1991) "the poor have more children than the rich "(p, 9). Therefore, this evidence agreed with the Becker and Lewis and Malthusian models in childbearing and findings with Bollen et al. (2007) study exploring permanent income in Peru and Ghana. Our finding confirms the studies of (Mittelmark & Bull, 2010) and (Snow et al., 2013) in which the wealth variable affects differed by their analysis. In Ethiopia, the poorest young men desired to have two more children more than any of other quintiles, whereas in Tanzania, the richest desired to have fewer children. This is in accordance with this study.

In Ethiopia, men in the poorest category desired approximately two more children than all other upper wealth categories, whereas in Tanzania young men in the richest category were willing to have the lowest number of children (Snow et al., 2013). The results of this study support this causality. Income and non-human capital of the men are positively related to fertility in Cote d'Ivoire and negatively related in Ghana (Benefo & Schultz, 1996).

On contrary findings did not support Caldwell (1982) explanation, of wealth flow: that large families are supposed to be succeed in rate of returns from children indication the mismatch of the practical implication of this theory of fertility decline, perhaps it adapts the roots of some Western theories such as Malthusian's theory.

***6.2.1.3. Type of place of residence*:** A little less than 3/5 of the total positive deviants reside in urban areas.

Why does "Type of place of residence" <u>fail</u> in describing association with ideal family size?

Ordinarily, one would expect the type of place of residence to impact significantly on fertility decisions as hypothesized in the modernization theory, diffusion models, classic demographic transition theory and more recent theorizing about macro-sociologic models. Those link urbanization to reduced fertility through the increased level of education, easy access to contraceptives, higher income status and the cost of child bearing etc. In an attempt to

partially resolve this issue, how this urban rural residence influence operates on fertility rates and under what circumstances are discussed since findings are contrary with Tobler's explanation of demographic behavior, Frank et al 1940 as cited by (Jaffe, 1942,p. 60).

The study refers to masked effect of "plethora of complex factors", in Ghana (Dzegede, 1981). Moreover, wealth disparity influences the rural and urban differences of fertility (Gyimah et al., 2008). The majority of the urban population (71 %) is in the highest two wealth quintiles, while (10 %) represent in rural area. The majority of rural residents (69 %) are in the lowest and the second wealth quintiles (GDHS, 2015). Birth registration in urban areas (79 %) while in the rural areas only 63% due to number of reasons such as "registration centers are highly inadequate and poorly equipped" (UNICEF, 2013) as cited by GDHS, 2015, (p.22). In Volta, only birth registration is only 50 % while in Central and Ashanti regions 81 % and 82 %, respectively (GDHS, 2015).

Three sets of scholars support the current study findings. Tawiah (1984, p.1) reveals "Husband residence is a poor predictor of cumulative fertility," Agyei- mensah (2006, p.463) posits "… there was no evidence of a systematic and sharp pattern of high fertility in poor rural areas and low fertility in prosperous areas." In addition, his analysis with GDHS in 2003 concluded that there was no urban and rural significant change in the first part of this 2000-2003 in Ghana.

One might question whether urbanization links to lower fertility and why the Northern region has shown highest fertility compared to the Upper East and the Upper West regions, since as (Agyei- mensah, 2006) notes, the "Northern region is more urbanized than Upper East and Upper West" (p.468). Therefore, accordingly, other factors may be shaping fertility rates rather than the urban-rural difference in our study. For instance, the Northern area has more Muslim leaders and most of them are traditional pronatalists. Low urban fertility is influenced by the urban Christians while higher rural fertility is influenced by the rural Traditionalists (Dzegede, 1981).

Contrary to the study findings, there is convincing evidence in the literature that urban residence is linked with low fertility in Ghana (White et al., 2008; White, Tagoe, Stiff, Adazu,

& Smith, 2005), in their studies on fertility outcomes with several covariates including urbanization, revealed that urbanization reduces fertility despite urban ward migrants affects. Urbanization is stronly linked with low fertility after controling age, cohorts,union status and education in ther study with women in Nigeria (Isiugo-Abanihe, 1994). Additionally, these finding are accodance with the postive deviants of the study where more than half resided in urban residence.

It is obvious that the aforementioned study samples comprised females aged 15-59 and did not measure fertility intentions but only measured the fertility rates. Snow et al. (2013) observed that young men in urban residence are more likely to report low fertility intentions than their rural counterparts in their five east African country analyses. After adjusting "odds ratios urban residence was consistently associated with smaller ideal family size, 0.4 (in Rwanda) and 1.5 (in Tanzania) less children than rural men" (p.11)

Despite its vigor, this current study had one limitation. The study could not mitigate the validity of the responses since high internal migration compromises the fertility statistics. Supporting this idea, In Kumasi, Ghana's second most populous city, the TFR for migrants was 3.74 and that of the second-generation residents 2.68. TFR for urban native women was 2.56, just slightly lower than that of the second generation" (Agyei- mensah, 2006, p.468). Measuring the fertility intentions of young men can be over or underestimated with reference to the type of place of residence in Ghana, if not considering the young migrant population. For instance, Dzegede (1981) noted internal migration makes for complicated urban and rural statistics. That some children in Ghana used to "live with rural kin, thereby, inflating urban ratio" and vice versa (p.238).

6.2.1.4. Region: The majority of the positive deviants (2/3) lived in Greater Accra and 1/8 lived in Ashanti region, with the same from the Eastern region, while 1/10 lived in the Western region. The lowest numbers (1/30) were recorded from the Northern region.

Why does region succeed in describing association with ideal family size?

The study finding supports the famous explanation of "everything is related to everything else Tobler (2004) and Emmanuel's ideology that fertility declines do not occur in the same

pattern acroos a geographical space due to the factors assosiated with multitude (Agyei-Mensah & Owoo, 2015; Tood, 1985).

Ghana shows a high regional difference in fertility due to many factors. Mittelmark & Bull, (2010) observed that distribution of wealth was found to be unequal among the regions especially between the regions in the north and those located in the south (used wealth index and the GDHS data). In general, Muslims and traditionalists tend to be spatially concentrated in the north and rural areas, and other religious affiliations (Christians) tend to have lower fertility rates than Muslims, and are concentrated in the south (Olivier & Woden, 2015). The religion differences make regional differences as roots and stages attached to historical developments (Gyimah, 2008). Generally, the level of SEC development is more advanced (urbanized) in the south than the north resulting in a marked spatial imbalance in accessibility to health services. This regional variation in fertility supports Emmanuel's ideology, that geographical variation causes fertility rate variation due to different speeds of urbanization and the depth of the religious ideologies. Therefore, it is not a surprise that Accra and Ashanti regions record lower fertility while Northern region showed comparatively a lower number of positive deviants.

6.2.1.5. Religion*:* Most of the positive deviants were Pentecostal/charismatic (1/3), while other Christians constituted approximately 1/5. A very low number (1/10) were Muslims.

Why does religion succeed in describing association with ideal family size?

Study findings are accordance with the Goldscheider's (1971) "particularized theology" (PT), (Doctor et al., 2009) and Davis and Blake (1956) intermediate variables theory of fertility decline (Chamie, 1981). The study findings point to the relevance of religion on Ghanaian reproductive decisions, and are supported by many other empirical findings, as Gyimah et al. (2008) noted, religions "place high premiums on childbearing by associating high fertility with virtues and spiritual approval, and barrenness with divine curse. Accordingly, In Ghana children are viewed or treated as God's gift, pleasure from God or yet, as a way to pacify ancestors (Agyei-Mensah, 2006). Findings supported other studies (McQuillan, 2004; Snow et al., 2013), religion and related cultural practices are highly assosiated with fertiliy rates in Ghana (Agyei-Mensah, 2006).

The study findings showed a highly significant association between Islam and ideal family size, meaning the higher the affiliation towards Islam, the lower the number of positive deviants. Islamic affiliation and older age positively correlates to ideal family size (Gyimah et al., 2008; Gyimah et al., 2006). This argument is accordance with Emmanuel's idelogy which hypothsis: larger family size has been accepted by the concept of de Christianization. De Christianization (decline of religious practice and/or belief in ideology) leads to low fertility. "Catholic and protestants slightly less than two times Catholics and Protestants are, respectively, slightly less than two times and slightly more than two times more likely to want no more children compared with Muslim men" in Nigeria (Isiugo-Abanihe, 1994, p.159). On contrary to the study findings; In Nigeria catholic and protestant reported lower family size than Muslim or indigenous counterparts (Isiugo-Abanihe, 1994).

Heaton (2011) observed mixed results that Muslims show higher fertility than Christians in Africa does while Protestants and Catholics have similar fertility. Contrary to the widely held view that Muslims tend to have larger families than other religious affiliations, Tawiah (1984) observed that Christians are willing to have bigger families than other religion affiliations. Religion is not significant with fertility levels in Ghana (Benefo & Schultz, 1996). In USA The Roman Catholic men tends to have higher motivation for child bearing, "Roman Catholic men holding more conservatively to the traditional, profamily value system" (W.B. Miller, 1992, p.283). On the other hand, factors such as region and place of residence have a confounding effect on religion in the Ghanaian context. (Benefo & Schultz, 1996; Gyimah et al., 2008).Tawiah (1984) Noted that once education entered, the religion variable would not show a larger impact, since education is more significant in promoting the use of contraceptives.

***6.2.1.6 Ethnicity*:** A little more than half of the positive deviants belonged to Akan ethnic group and this was four times higher than Mole Dagbani and Ewe ethnicity groups. A very low proportion (1/25) belonged to Gurma ethnic group while Grusi represented 1/30. The Mende ethnic group recorded the lowest positive deviants in the study.

Why does ethnicity fail in describing association with ideal family size?

The study refers to Davis-Blake paradigm, (Alison, 2010) in order to justify the finding. (Isiugo-Abanihe, 1994); Olivier and Wodon (2015) also referred to Davis-Blake paradigm. Dzegede, (1981) observed fertility variance in Ghana influenced by the urban rural experience, for instance "Akan ethnic group which comprised about 44 % of the population had predominantly lower urban fertility "(p. 240) due to other SEC factors affect in various degrees, as accordance with positive deviant group in our study. De Rose (2007) observed that 64 couples reported ethnicity as 'other Ghanaian' or 'other African' and classified themselves as patrilineal. "Akan, the largest matrilineal ethnicity group has power to reject arranged marriages and decision-making power" because resources flow through their linage line (p.130).

Birth registration in Ghana increases with wealth, from 58 % among the poorest households to 88 % among the richest households (GDHS, 2015); definitely influences fertility data in the poor ethnic groups in Northern area. Dzegede, (1981) reported that 17 out of 30 major ethnic groups had lower urban than rural fertility" (p. 240) in Western Africa (Upper Volta). In contrary to study findings, Isiugo-Abanihe , (1994) Nigeria ethnicity appears to be very significant determinants of ideal number of children. Ethnicity plays a big role in fertility differences in Ghana (Benefo & Schultz, 1996). However, that study assessed female participants, not men.

***6.2.1.7. Level of education*:** The majority (80 %) of the positive deviants had finished secondary education partially or completely, while the corresponding value for primary education was only around 1/10. The number of positive deviants who had completed higher education was higher than the number of those who did not have any education; the majority had completed higher education.

Why does level of the education succeed in describing association with ideal family size

Though the findings may appear interesting, education has drawn the highest attention in this study. The explanations are obvious; that young men who have higher education levels are significantly associated with having fewer children is not a surprise since it is a widely discussed phenomenon in modernization and demographic transition. In all other, the

theories related to fertility and demographic transition, there is a universal negative pattern concerning level of education and fertility rates.

This pattern is widely addressed by Emmanuel's ideology (1985, 1987) that fertility transition is highly related to educational attainment in different regions in the world. Europe achieved its fertility transition through modernization, which leads to higher education. Higher education leads to better decision-making regarding childbearing in terms of quantity and quality. This study's findings support some other empirical studies, for instance, Snow et al, (2013) hypothesized that young men whose level of education is high are more likely to desire fewer children. Studies in Ethiopia and Tanzania have found that men who don't have education are highly associated with higher fertility ideals, and this phenomenon is stronger in Tanzania than Ethiopia (Snow et al, 2013) and lower education is associated with higher reproductive ideals in all five East African countries in that study. Isiugo-Abanihe (1994, p.156) reported that Nigerian university-educated men reported 4 fewer children as the ideal family size than those with no formal education and these data support the argument of Graff (1979).

In contrast, some other studies found contrast and mixed results; Educational achievement in the Gaisie (2013) study (explored regional fertility variation in Ghana) concluded, "The inclusion of proximate fertility determinants reduces the magnitude of other coefficients such as education and urbanization" (p. 171).

Oppong (1975) considered an association between attitudes and jointness of the conjugal relationship with respect to small family size among 393 young male university students in Ghana. The question asked was "what is the best number of children for an educated couple to have?" and the majority (84%) chose to answer 'ranged 4-6 children' while 'ranged 1-3' was volunteered by only 7% of the sample. This indicates that approximately 40 years ago, Ghanaian young men educated to a higher level believed that the ideal family size was ranged 4-6. In our study, ideal family size ranged between 1-3 was selected by 28.4 %._"The direction of the wealth flow between generations is changed with the introduction of mass education" (Caldwell, 1980, p.225) is an appropriate citation in this respect. In the contrarily: "That education is not always, nor necessarily, an independent or direct contributor to fertility

levels or behavior" (Graff, 1979, p.132), where fertility decreases due to other factors (such as modernity or status etc.) and analysis is often confused in a country like Ghana where different social systems, cultures and norms prevail.

Contrary to findings there found other suggestions. "The same accounts for the positive association between education and the chance to have any children for men, suggesting that different genes are important for men and women concerning fertility" Mills et al. (2015, p.410). "The fact that male education itself has only a weak relationship with fertility is not surprising. In most parts of the developing world, and especially in contemporary South Asia (John et al., 2000, p.275). Additionally, Isiugo-Abanihe (1994) found in Nigeria that university male students (married) expected inverse relationship. Miller (1992) in his study (using T.-B.I-D framework) among the sample 401, observed that education has negative effect on women decision on child bearing but not of men. Isiugo-Abanihe, (1994) reported that university -married men expected inverse relationship. Male education is not associated with fertility declines in Cote d"lvore and Ghana (Benefo & Schultz, 1996) and they referred to Caldwell and Caldwell's (1987) "fertility is determined in a different cultural context in Africa" (1996, p.145).

6.2.1.8. Working status and occupational groups:

Those currently working had a 1.32-fold higher risk of being positive deviants, compared with those who were currently unemployed. Those who belonged to the agricultural skilled job category and tended to have an ideal family were fewer than their counterparts. The positive deviants' second option was skilled-manuel jobs. Those who were in the professional and managerial jobs category and unskilled manual category had the same chance to be a positive deviant, while sales people were a little less likely than the former categories. Services and clerical workers were few in the study.

Study findings can be partly discussed under (Handwerker et al., 1977) "Conventional theory posits a curvilinear relationship between the complexity of technology and the complexity of family system" (p.259). Moderately educated white collar and skilled labor who are with extended families have higher fertility than more educated nuclear families. However, available information is not enough to provide critical assessment of curvilinear patterns,

since the analysis didn't focus on types of family structure. Additionally, the men who had traditional agricultural jobs were supposed to have a higher fertility level, but Africa has a labor-intensive agricultural sector, and the findings do not support this condition. Additionally, findings do not support the conclusion of Appiah-Yeboah et al. (2001),which was cited by (Agyei- mensah, 2006) "there were conscious reproductive behavioural adaptations to agricultural adversity as evidenced by avoiding or delaying childbearing through abstinence" (p,471).

If the study had worked with men to the age of 59, it would have been possible to see the association between ideal family sizes and working status and occupational groups since age varies only aged 15-24 in this study and most of them had not finished their education.

***6.2.1.9. Sex of the household head*:** Two thirds of positive deviants came from households with male heads.

***6.2.1.10. Position in the family*:** Two thirds of the positive deviants came from households with male heads and the majority (2/3) were sons of the family, while only 1/6 were recorded as being the head of the family. This revealed that people living with their own family are more likely to have ideal family size than those living with another's family.

Why do Position of the household and the sex of the household head succeed in describing association with ideal family size?

The position of the household variable draws special attention in the discussion section since it has a significant logistic value but is non-significant in chi-square tests. The results of the logic regression are more about the association than the difference, although the association might imply the difference. The results in the chi-square test are between only two variables, and the logistic regression ran with multiple independent variables. These tests ask two different questions, so they give different answers. The logistic regression test asks whether odds of position in the household after controlling for other variables while the second does not control for any other SEC variable.

Sex of the household head and position of the household both influence decision-making in family planning. Comparison of the regional empirical evidence suggests Ghana is impacted

significantly by men's dominance in deciding family size, and men prefer to have larger families than women do. According to De Rose & Dodoo (2004), men make fertility decisions in Ghana, and men's declining fertility desires seem to be associated with low fertility rates (De Rose & Ezeh, 2005). The findings of this study supptort the notions that men want larger families than women.

Contrastingly, Dungumaro (2008) found that there are some advantages for a family being a headed by a female in South Africa (providing higher literacy for children etc). However, the related advantages concerning fertility ideals are not mentioned. Young men's intention towards ideal family size depends on the strength of matriarchal or partriarchal characteristics of a particular society.

***6.2.1.11.Marital status*:** Almost all the positive deviants in the study (98%) had never been married or in union

Why does marital status not succeed in describing association with ideal family size?

This study used a sample of young men and 99% of them had never been married or in union with somebody, therefore the data was not representative enough to assess correctly the association between marital status and fertility ideals; it could have been assessed if the study had employed both young and older adults. Isiugo-Abanihe (1994) observed that monogamously men have smaller number of children and desired too. Those who favor polygamy and a greater number of children are challenging the Nigerian policy on no more than four children per woman. This encourages men to marry many women. Men in monogamous unions are more than three times more likely to want no more children than those in polygamous relationships. Snow et al (2013) study on young men's fertility aspirations on fertility ideals had mixed results. Only Ethiopia showed significant association between fertility aspirations and fertility ideals while the other countries did not (Rwanda, Tanzania, Uganda and Zambia) (Snow et al, 2013, p. 14).

6.2. 2. Research Objective 2 : To Assess The Determinants of Gender Attitudes Among The Positive Deviants

The study employed the justification of wife beating (IPV) as an indicator of gender attitude. The study created a summary of measures of tolerance to wife beating, comparing young men

who had not agreed to justify at least once with any of the five scenarios presented in GDHS, and those men were categorized as having positive gender attitude. The majority (86%) was recorded as having a positive gender attitude, in other words they did not justify wife beating for any of the five reasons (See the chapter 4), while 14% justified wife beating.

The findings support other empirical studies, for instance, (Takyi & Mann, 2006) in their study (which employed GDHS data in 2003) on men's attitudes and beliefs towards wife beating observed younger age, less education, and less wealth are associated with justification of wife beating and employment and social status have no association with justification of wife beating. In this study, the majority of positive deviants displayed the above characteristics. Higher justification of wife beating in the Molde Dagbani region was found to be associated with particular masculine characteristics and factors outside of the individual household. Takyui & Mann (2006) believe that men should be questioned about their usage of alcohol, since it has significant causality with masculine characteristics as well as with IPV everywhere in the world.

6.2.2.1. Why does gender attitude succeed in describing association with ideal family size?).
Some authors evaluated effects of recourses and cultural factors towards attitudes towards IPV (Mann & Takyi, 2009) and found egalitarian decision-making, high levels of education, level of household contribution and traditional religious affiliation are more supportive of IPV. (Takyi & Lamptey, 2016). Christian has higher IPV than Muslims, only 20% had no formal education; 61.2% actually had a secondary (high school) education. 37% of the respondents consumed alcohol (Takyi & Lamptey, 2016). Muslim women (68.7%) had experienced more than one sexual abuse (66.7%) as compared with women of other religious denominations (p. 16). Protestant women (70%) tended to report more than two forms of abuse as compared with the other women (p.17). One US study of 1463 women (Gee, Mitra, Wan, Chavkin, & Long, 2009) concluded that it is difficult for women to control their fertility control if they have experienced IPV.

Women's wealth and IPV has a casualty in that women's share of a couple's wealth is significantly associated with a lower chance of IPV in both Ecuador and Ghana (Abnea, & et al 2015). In patrilineal societies in Ghana male dominance and sexual violence is associated

(Sedziafa et al., 2016a). Yount et al. (2014) observed that attitudinal gender gap has casualty with IPV. "IPV was consistently associated with higher fertility aspirations across all five countries, independent of education, income, or religion" (Snow et al, 2013, p.1). The current study found the similar clear causal relationship between gender attitude (IPV) and ideal family size; presence of gender attitude in young men is associated with less fertility ideals.

Snow et al (2013) acknowledged as "the first study to assess the relationship between gender equality attitudes and fertility aspirations among young men in East Africa". (Ethiopia, Rwanda, Tanzania, Uganda, Zambia). Their study and this study have some similarities and contrasts. For instance, they employed DHS data (2005 & 2007), their sample was young men (15-24), they analyzed the association between gender attitude and family size and found wealth, gender attitude, religion, and education as being significant factors.

This study differs from the Snow et al (2013) study since this study employed only young men who have no children. This affects the sample size and validity of the results goes down as Snow et al 2013, notes:

> The DHS measure of ideal number of children has been criticized for its vulnerability to ex-post rationalization of adults who already have children (Bhushan and Hill 1996). In our restricted sample of young men, however, in which more than 85 % have no living children, ex-post rationalization is not likely to positively bias our estimates of fertility aspirations. Nonetheless, to account for this bias, we adjust for parity in all models. (p.19).

Therefore, Snow et al (2013) admitted that they had only a limited ability to measure gender attitude. Therefore, the current study proved its validity. However, this study had to face some other methodological issues as well, since the study was missing large amounts of data (more than 10 %) for two other variables relating to gender attitudes those addressed by Snow et al (2013) such as sexual rights and decision-making power.

Nevertheless, there are some contrasts, for instance, this study involved young men who have never had children in Ghana and used the latest GDHS data sheet. Snow et al (2013) sample included young men with children. , and all the variables were significant except urban and rural differences. The main objectives of this study was to set out the determinants of fertility

ideals among positives and non-positives and this study employed two additional variables, i.e. ethnicity and region where region was highly significant.

The findings of this study support several other empirical studies. Isiugo-Abanihe (1994) analyzed the five cities in Nigeria and hypothesized that male dominance links to higher childbearing aspirations; they analyzed both males and females. Women in India reported difficulty with spousal discussion about FP when IPV is predominant in society (Stephenson, Koenig, & Ahmed, 2006). However, it is essential to note that the study findings do not support one of Emmanuel's explanations that "The father is everywhere and therefore nowhere" (1985. p, 193) since the growing literature has advanced that male dominance prevails in Ghana.

The findings of the current study support the argument posited by Basu (1999) that men's ideal number of children varies with the qualitative difference of the men. Those men who desired more children are qualitatively different from men who desire fewer children.

CHAPTER 7

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

7.1 General Conclusions

This research investigated the gender and SEC correlations that differentiate young Ghanaian men (15-25) with fertility ideals 1-3 (positive deviants) versus fertility ideals <3 (non-positive deviants) using the DHS (2014) data set. The study adapted the T-D-I-B theoretical framework derived from TPB. The research revealed that gender attitude, wealth index, region, religion, positions in the household, sex of the household head, and level of education were statistically significantly associated to fertility ideals. The other predictors of fertility ideals that were not statistically significant were: respondent's age, working status, occupational group, type of place of residence, ethnicity, and marital status, not included in the final model. The variance explained by the statistical model was mostly significant. This indicates that, although the seven aforementioned predictors were significant, they do not reveal much about what differentiates fertility ideals among young men in Ghana. This research has shown that it is not very safe to generalize findings based on analyses of other countries, even within the same region. Due to the complex nature of social phenomena, an additional qualitative study could have supported this study. It is important that particular attention be paid to what risk and protective factors impact on controlling fertility rates in Ghana. Understanding of the SEC characteristics and gender roles of future potential parents (young men) who have the fertility aspirations of the ideal number of children is essential, as it would help in achieving expected TFR in Ghana.

Moreover, the study assessed the gender and SEC determinants of positive deviants in Ghana, using the positive deviant's terminology in order to fully grasp how the young group contributes to ideal family size. The majority of the positive deviants were young, urban residents, lived in Greater Accra, had Pentecostal charismatic religious affiliations, and had Akan ethnicity. They had partially or fully completed secondary level education, belonged to richer households (not the richest), had never been married or entered into union, lived in a house hold with a female household head, and were usually the son of the family. Most were working in a comparatively high status and skilled jobs in the agricultural sector. Most importantly, the vast majority never justified wife beating; in other words, they never accepted IPV for any reason. Population policy makers should identify the above-mentioned characteristics of the positive deviants, in order to cube the fertility in Ghana.

This thesis supports results from prior literature, empirical and theoretical background. That indicated that fertility intentions are associated with the ideal family size. For instance, Snow et al, (2013) Emmanuel's ideology and Basu (1999) Ghanaian demographers and policy makers must address gender attitudes of the young population if they wish to reduce fertility rates in Ghana.

7.2 Recommendations and Future Implications

7.2.1 Approachability of the Theoretical Framework and Future Implications

Widely used TPB is a micro-model, has intention at a point of time, not flexible enough to catch life zigzag patterns, only focuses on the psychological antecedents of a single outcome and ignore most of other important determinants of the fertility decisions, for instance: individual fertility decisions depends on the fertility planning (having sex, using contraceptives, abortion) and interdependent with many other life behaviors (working partnering, marrying) (Morgan & Bachrach, 2011, p. 13). Therefore, this study adapted the T-D-I-B framework, which is much more appropriate.

Moreover, Miller (1992)_examined meaningfulness of his T-D-I-B framework with 401 married couples with a longitudinal study and observed (201 respondents with no children and 200 respondents with one child); that personal experiences exert a profound influence on the strength of childbearing motivation and results supports the T-D-I-B. Behavioral geneticists suggest that at least 30% to 50% of the variance in personality traits that influences the reproductive decisions is determined genetic makeup (heritable), and agree with the T-D-I-B framework (p.281).

To sum up, the T-D-I-B framework is the most approachable and relevant to. Even though T-D-I-B has shown its parsimony and strength in applicability there are some implication met in this study when it comes to the practical child bearing. A central challenge in adopting the T-D-I-B framework for analysis of fertility preferences in Ghana in this study is to predict the ideal fertility, which permits the generation of a valuable instrument to compare and predict future fertility patterns.

One might question what factors are important in differentiating between ideal and actual fertility decisions. Even though the objective of the study was to analyze the ideal fertility, it is worth noting that there a number of factors that affecting preferences relating to ideal family size. These include rising age at childbearing sex, gender preferences in involuntary family limitations, competing preferences concerning child mortality, handicapped children, post-natal depression, the inability to find a suitable partner, union disruption, physiological sterility and disease-induced sterility. All of these parameters affect practical childbearing (Bongaarts, 2001). Finally, family-size ideals may be a reflection of behavior, rather than predicating and/or determining behavior. However, this supposition does not apply to younger cohorts who have yet to attain their desired family sizes (John et al., 2000, p.280).

Additionally Numerous SEC and other biological factors also affect this change over time. For instance: higher education changes attitudes and expands the individual's point of view beyond family and community of origin, and may be expected to promote and facilitate activities competitive with childbearing, higher status related to occupation where individuals have to decide between childbearing and personal advancement, marriage, which is the main reason, or religion, whether formal or more fundamentalist, and maintenance of intergenerational family ties (Miller, 1992)

Individuals and couples make their decision based on society's fertility levels and other factors concerning couple's conflicts, gender roles and national childcare norms (Rotkirch et al., 2011; Testa, Sobotka, & Morgan, 2011). Individual's emotions of benefits of baby longing needed to measure in a more qualitative way in order to finalize this complex phenomenon. "Each birth having a s a feedback effect upon desires and intentions (W. B. Miller, 2011, p.93), " also family network "forces appear to drive the mismatch between desired and actual fertility (Balbo & Mills, 2011, p.180).

Ghana is a multicultural country and it can be observed that it is not healthy when considering many health development indicators such as child mortality, illegal abortions, higher HIV, STD victims etc. Therefore, considerations about fertility intentions vary between regions depending on the child mortality rates in the region. As mentioned in chapter one, real population growth is always higher than what TFR indicates. Nevertheless, this study was

carried out among a young group who live in a highly culturally diverse society where deep-rooted religious thoughts and norms are embedded and mixed. Among the sample 20 % are still students. Therefore, the links between hypothetical fertility preferences and actual childbearing has attracted the attention of researches due to their inconsistencies and uncertainties.

One comparative longitudinal study (2 years) carried out in rural communities in Ghana in order to explore the meaningfulness of survey responses on items of the fertility preference and the extent to which stated preferences are maintained over time, and hypothesized that "Responses on desired family size seem to be highly unstable (Debpuur, Depbuur, & Bawah, 2002) Within the two-year period in their study, only 25 % of the respondents maintained their desired family size" (Debpuur et al., 2002).

A modern suggestion put forward by some authors is that instead of the traditional question of 'what is your ideal family size?', there should be a new perspective on fertility preferences, where the second choice should be addressed rather than first choice of what is an ideal family size i.e. a hierarchy of reproductive preferences rather than a single target (Hin, Gauthier, Goldstein, & Bühler, 2011). The psychological distance between first and second choice depends on the person, and the first choice is more hypothetically based rather than practical as they noted as "ideal", if alternative ideals reflect a higher degree of realism they may be better predictors of behavior. (Hin et al., 2011). They applied this in the Netherlands and found that it was both more practical and realistic than asking about the first choice, would not be applicable to Ghana.

However, the aforementioned idea could face practice issues in Ghana and those should be examined with a pilot survey. This second choice method is better suited to a country with low fertility rates since couples in those countries more freely decide the number of children they have compared with couples in Africa where pronalistic ideology has been embedded for years. It might be that in Ghana, individuals would answer with the partner's attitude in mind since gender inequality is rife.

T-D-I-B framework was derived from TPB, which is mainly employed in studies in the USA. Therefore, the applicability of western social cognition theories in non-western settings such as Ghana has been debated, "The association between intention and reported behavior is weak" in an African setting (Wubs, Aarø, Kaaya, Onya, & Mathews, 2015, p.2142) and their study on impact of extent of exposure to ten social cognition variables and exposure to the violence on transition to prediction of sexual intercourse observed that besides social cognition factors, IPV should apply to reproductive researches (A. Wubs et al., 2015; A. Wubs & Universitetet i Bergen Det psykologiske, 2015). However, their study involved adolescents in South Africa and Tanzania and its applicability to young men in Ghana would be questionable.

Simon and Newcomb (1956) explain the classic theory of human satisfaction of marginal utility function, which can adapt to links family social capital and human fertility decisions. Based on this underlying mechanism parity influences the fertility intention. Other authors supported this argument (Balbo & Mills, 2011). "Presence of young children impacts the realization of fertility intentions" (Luksík, Bianchi, Popper, & Babos, 2016, p.181; Lyngstad & Prskawetz, 2010). Snow et al. (2013) adapted this T-D-I-B framework and could not avoid the men who already born children in their study.

Therefore, there is a current need for a better version of the T-D-I-B framework in order to measure the fertility intention and childbearing decisions in the African context. Demographers and policy makers must pay increased attention to identify the relevant social cognition theory framework in order to address fertility ideals as also suggested by Wubs et al. (2015).

7.2.2 Limitations Met In The Study and Possible Implications

The results presented in this study should be viewed in light of the following limitations:

The possible limitation is the inability to disentangle conclusions on potential reciprocal causation, since the study employed the cross-sectional data from GDHS: and had only one wave of data. A study needs minimum three waves of data in structural equation. GDHS, (2014).

This study employed the data from the men's questioner and relied on men's reports of infecundity in the calculations. However, we may need to understand how women's infecundity is attributable to male causes, since the selection of positive deviants consisted of those without children and potential fathers in the future. In some cases, the men were very sensitive to the question about infecundity since, in the African region, infertility is met with discrimination and is seen as a curse. Therefore, there is a chance that the present study may be overestimating the selected sample size.

The main assumption was that the selected young men, whether married or not, were childless. This assumption, if incorrect, led to a misclassification of future fertility intentions since there could be husbands whose wife was pregnant. Those men who were unaware that their wives were pregnant did not affect the result since the assumption may not hold for men who were aware of their wife or partner's pregnancy. This study should have considered this variable by omitting the status of pregnancy of the partner. However, men in this study who were married or in union made up less than 2 % of the sample. Therefore, the error was assumed to be very low.

The number of children ever born (CEB) could have been underestimated in the study since in the men's questioners did not record dead infants or stillbirths. The respondents could have misreported or given inaccurate answers due to recall bias, but the study could not omit this limitation since the study did not have access to records of pregnancy registration. Also CEB could have been caused by truncation and censoring (Olatoregun et al., 2014)

Moreover, Gaisie (2013) added choice of methods types of interpretation results could enhance the other source of distortion. For instance: rural and illiterate women could not able to recollect the dates of the births of all of her children without written evidence. Therefore, responses lead to misdating or misstatement, or omissions of some data.

A methodological limitation arose related to the stability of the respondents to the GDHS who responded as "*don't know"* are hardly optimal and it is difficult to assure the nature, quality and the content or quality of the measure of discussion (De Rose et al., 2004, p.89). Alternatively, if a response to the question about the "ideal number of children" was "it was

in God's hands". Such measure of discussion does not clarify the nature, content or quality of discussion" (p. 89). "The fraction of women who report a non-numeric response (e.g., up to God) was substantial in some country" (p.159) and it had declined up to less than 5 % due to the reluctant to present number of living children and fraction goes high when they are older and have large numbers of living chil1dren (p.607). We could not omit this variable since as recommended by De Rose et al., (2004, p.89).

GDHS 2014 admits that there are two types of errors attached all of the variables. Sampling error (which is inherent in the survey 101) can be evaluated statistically and the non-sampling error cannot be evaluated statistically. For instance, displacement of births can affect some mortality data (GDHS 2015). Thus could have affected the quality of the study analysis. Interviewers want to reduce to work load; "they avoid the detailed set of maternal and child health questions included in DHS surveys for births occurring in the last five years" (GDHS 2015, p 100). "An examination of the distribution of the 2014 GDHS birth history data by calendar year shows no evidence of major transference of births from 2009 to previous years" (GDHS 2015, p 100).

Bongaarts (1990) suggests instead of desired family size, preferred fertility should be admitted in older to avoid the shortcoming encountered: "it apparently overestimates the true wanted total fertility by a substantial margin": manly two potential sources of bias: nonresponse and rationalization. (2) Involuntary fertility limitation (sterility, marital disruption, and non-marriage), (3) voluntary decisions to stop childbearing (4) delays in the timing of childbearing. For instance in the case of women rationalization of unwanted births, "The bias averages 0.8 birth per woman, and in several populations the difference is close to 2 births per woman."(p. 502).

Other Possible Limitations and Implications.

The DHS survey does not provide enough information on activities related to religion in order to crosscheck or validate the responses. "DHS surveys do not include a measure of religious participation so it is not possible to distinguish between active participants and members who do not participate" (Heaton, 2011, p.463). Olivier and Wodon (2015, p.68) "The religion in Ghana is not static variable and religious groupings in Ghana is rapidly changing". Religion may matter and the same time it is not static in Ghana; accordance with the "the importance

that individual attach to their affiliations varies depending on the issues and circumstances" (Olivier & Wodon, 2015, p.69).

Gyimah, (2010) describes the limitations of his study: "since the respondents were asked about their affiliation only, it was not possible to explore intrinsic and extrinsic aspects of religion on risky behavior among Ghanaian men" (543) as cited by (Olivier & Wodon, 2015) and was relevance to the current study. Pool et al. (2014) assessed the causal relationship and found this to be unclear when collecting cross-sectional data. However, different cultures have different norms; therefore, this should be taken into consideration when interpreting the results. Their study used two predictive variables as gender of the head of the household and position within the household. As Bongaarts (2001, p. 265) mentioned "problem encountered in the collection of the household data is the identification of the head" (p. 265), this is especially true in African settings. Therefore, this could have affected the analysis.

Education is a very important determinant among the SEC factors that contribute to fertility. Nevertheless, education disparity prevails due to SEC problems, especially in Northern areas, where many have no access to formal education. Instead of formal education, education for life skills and traditional knowledge is passed down from generation to generation, and from elders to youths (Mittelmark & Bull, 2010). Therefore, these scenarios must be considered when developing survey standards to measure social position and life skills with validity and reliability (Mittelmark & Bull, 2010).

This study employed only male interviewers in the latest GDHS. It would have been more appropriate to include other questioners (household and women), which provide better and more robust measures to determine predictable variables, while a facilities room would permit cross-validation. For instance, education of elderly women in the community can be one potential way of classifying educated men Snow et al (2013). However, Snow et al (2013) found substantial amounts of data were missing for this variable.

In order to overcome many of the aforementioned shortcomings, the study should have been conducted using multivariate analysis. Future research will be done using both qualitative and quantitative disciplines. One implication for any future study is to conduct the research with the same methodology and measures but with different data sheets such as WFS.

Alternatively, another methodology but using the same data sheet would determine if different methods provides similar results. Additionally, another limitation is the source of data (DHS); a quantitative research method was preferred to qualitative methods since the data were quantitative in nature. Therefore, a qualitative method alone would have been very impractical.

Despite the appropriate and convenient analysis of the research questions, there is limitation to the methodology, where substantial loss of some of the important information occurred due to collapsing of many variables into fewer categories (such as religion, region, and ethnicity). This could have influenced upon the study interpretation. It is worth noting that other factors not addressed in the study are also likely to have contributed to potential misinterpretation of the study. There is room for development in future studies.

7.2.3 Strength of the Study

The study employed the latest data gathered from the GDHS 2014 Survey. This data has excellent quality control and is comparable across countries since DHS surveys are nationally representative, and enable findings to compare with international level. DHS surveys have larger and more inclusive sample sizes than other surveys, which eventually allow any findings to be more generalizable to the population as a whole, and a number of SEC variables from different races, ethnicities, education levels and SEC statuses. The study also referred to high quality and most recent empirical studies as well literature review, which truly give high insights to the critical comments.

Just as Snow et al (2013) emphasized, the current study also used the primary output and gender attitude measures that have been used widely and are well understood. Moreover, the study adapted the Miller T-D-I-B (Miller) theoretical framework derived from TPB that has been useful in hundreds of studies for more than three decades. The latest GDHS datasheet, a well-tested framework, a widely used measure of predictors and the most advanced statistical analyses gave strength to the overall results of the study. Policy makers could use the PD approach for future potential fathers in Ghana in order to archive the SDGs.

Even though Ghana has implemented a massive number of population policies, they have not been effective as targeted by non-government organizations and foreign organizations. One of the main reasons for this failure has been a lack of focus and coordination with ordinary Ghanaian people. There are critical socio-cultural challenges as local people have their own traditions and cultural norms (Kwankye & Cofie, 2016). It is important that these policy implementation challenges are addressed with proper coordination with the local population who can be the positive deviants in terms of ideal fertility. The findings of this study can inform such a coordinated approach.

Finally, in accordance with prior empirical studies, I believe this study to be unique, since no study of this kind has been conducted in either Ghana or elsewhere. The study adopted an appropriate method, with a positive deviance approach using the latest DHS data set in Ghana. In this regard, the study has given a new dimension to the application of positive deviance and the use of cluster data analysis-methods. Obviously, this has added to the knowledge base, which can be adopted in further studies.

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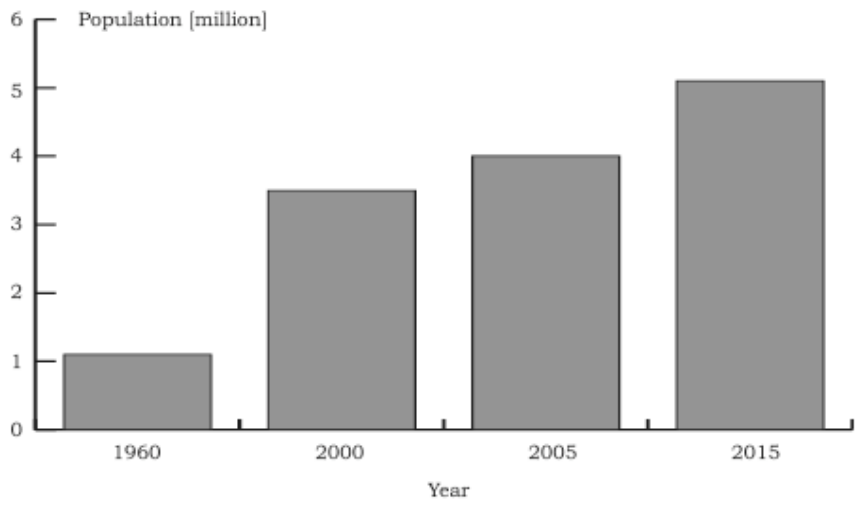
APPENDICES

Appendix 1 A complete list of the Proximate variables adapted from the (Bongaarts et al., 1984, p.516)

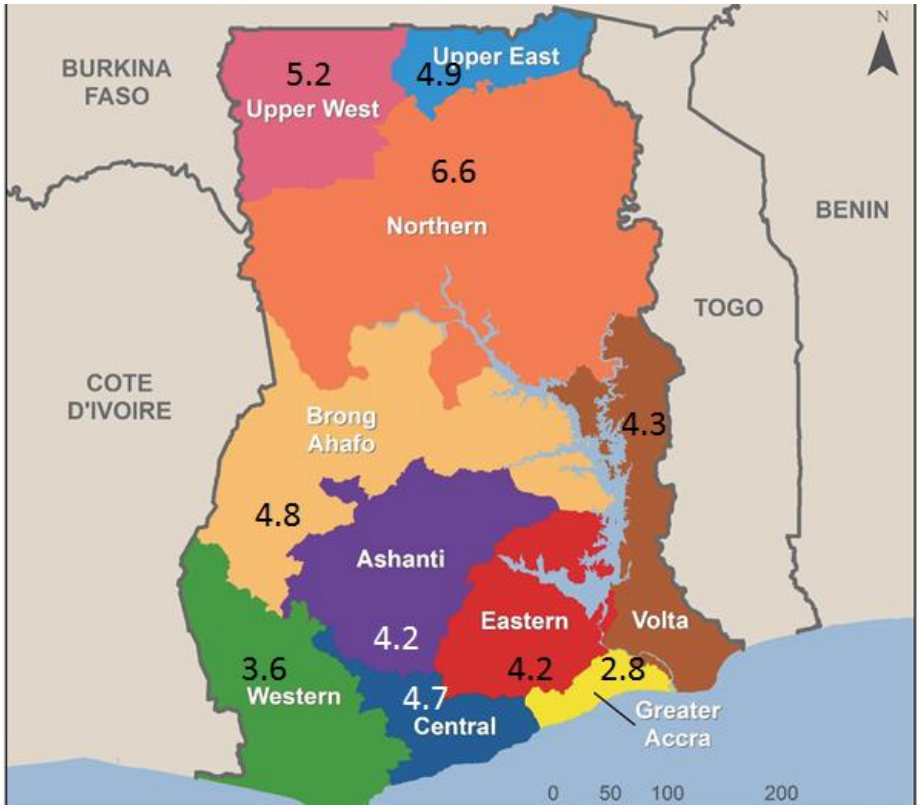
1. Proportion of women married or in sexual unions.
2. Frequency of intercourse
3. Postpartum abstinence
4Lactational amenorrhea.
5Contraception
6Induced abortion
7Spontaneous intrauterine mortality
8Natural sterility
9. Pathological sterility

Appendix 2 The population of adolescents and young adults (15-24 years old in Ghana



The population of adolescents and young adults (15-24 years old) increased from 1.1 million in 1960 to 3.5 million in 2000 and it is estimated to rise to 5.1 million in 2005 and 5.9 million in 2015 (Figure 5).Gaisie , 2013, p.20)

Appendix 3: Map of the Ghana & Regional TFR (2014) (GDHS, 2015)


BURKINA FASO
5.2
Upper West
4.9
Upper East
6.6
Northern
BENIN
TOGO
COTE D'IVOIRE
Brong Ahafo
4.3
4.8
Ashanti
4.2
Eastern
Volta
3.6
Western
4.7
Central
4.2
2.8
Greater Accra
N
0 50 100 200

Appendix 4.Table 1.1 The Selected Key Demographic Indicators

Table 1: Selected Key Demographic Indicators reflecting achievements and policy targets

Indicator	Indicator Level (Achievements)							Target in the Revised Policy
	1984		2000			2010		
Total Population	12.3		18.9			24.6		No target stated
Intercensal Population growth rate	3.0		2.7			2.5		1.5% by 2020
% Population under 15 years	45		41.3			38.3		No target stated
	1988	1993	1998	2003	2006	2008	2011	
Total fertility rate	6.4	5.5	4.4	4.4	-	4.0	4.3	5.0 by 2000, 4.0 by 2010 and 3.0 by 2020
Infant mortality rate	77	66	57	64	71	50	53	44 in 2005 and 22 in 2020
Under-five mortality rate	155	119	108	111	111	80	82	No target stated
Contraceptive prevalence rate	5.0	10.0	13.3	19	16.6	17	23.4	15% for modern methods by 2000, 28% by 2010 and 50% by 2020
Unmet need for family planning	31.6*	36.8*	33.5	34.0	-	35.3	26.4	No target stated

Source: GSS, PHC (1984, 2000, 2010); GDHS (1988, 1993, 1998, 2003, 2008); MICS (2006, 2011), and Government of Ghana, (1994). *Govindasamy & Boadi, (2000).

Reference :(Kwankye & Cofie, 2016, p.1744)

Appendix 5: Timeline for population and family planning

Timeline for Population and Family Planning Ghana

1958:Local family planning associations receive international financial assistance from the Pathfinder Fund.

1960:Local family planning associations open clinics to serve multiracial populations in Nairobi and Mombasa.

1962:The Family Planning Association of Kenya is established and becomes affiliated with the International Planned Parenthood Federation. The first post independence census reveals an extremely high rate of population growth.

1965:A key economic planning document— Sessional Paper Number 10 —is issued and includes a call for moderating the rate of population growth. The government invites the Population Council to send an advisory mission on population policy. The Population Council fields a mission and recommends a national family planning program, with the lead role to be taken by the Ministry of Health.

1966:The Ministry of Health issues a circular to provincial and district medical officers announcing the establishment of the national family planning program.

1967:The Ministry of Health issues a second circular on family planning stipulating that family planning service providers should be trained and that the services should be offered free of charge.

1969:A new census indicates that the rate of population growth is extremely high.

1971:The government asks the World Bank to help develop an enlarged national family planning program.

1975:The five-year (1975–79) enlarged national family planning program is started with an overall budget of US$39 million.

1979:A new census indicates that the annual population growth rate is approaching 4 percent.

Appendix 6; Table 5, 3 Ideal number of Children in 3 groups with Young and adult Children Ever / Never Born

Table 5: Ideal Number of Children 3 Groups with Young and Adults Children Ever / Never Born

	Ideal Number of Children 3 Groups											
	0			1-3			Total					
	Young	Adult	Total	Young	Adult	Total	Young	Adult	Total	Young	Adult	Total
Count	22	6	28	485	228	713	925	263	1188	1432	497	1929
% Total Children Never Ever Born	78.6%	21.4%	100%	68.0%	32.0%	100%	77.9%	22.1%	100%	74.2%	25.8%	100%
% Total	62.9%	17.1%	80.0%	38.9%	18.3%	57.2 %	29.8%	8.5%	38.2 %	32.6%	11.3%	44.0%
Count	0	7	7	27	507	534	50	1868	1918	77	2382	2459
% Total Children Never Ever Born	0.0%	100%	100%	5.1%	94.9%	100%	2.6%	97.4%	100%	3.1%	96.9%	100. %
% Total	0.0%	20.0%	20.0%	2.2%	40.7%	42.8 %	1.6%	60.1%	61.8 %	1.8%	54.3%	56.0%
Count	22	13	35	512	735	1247	975	2131	3106	1509	2879	4388
% Total Children Never Ever Born	62.9%	37.1%	100%	41.1%	58.9%	100%	31.4%	68.6%	100%	34.4%	65.6%	100%
% Total	62.9%	37.1%	100%	41.1%	58.9%	100 %	31.4%	68.6%	100%	34.4%	65.6%	100%

N=4388

Appendix 7. Demographic and Health Surveys- Mans Questionnaire

FORMATTING DATE: 12 Oct 2015
ENGLISH LANGUAGE: 12 Oct 2015

DEMOGRAPHIC AND HEALTH SURVEYS
MODEL MAN'S QUESTIONNAIRE

[NAME OF COUNTRY]
[NAME OF ORGANIZATION]

IDENTIFICATION (1)

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER . . . . . [ ][ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ][ ]

NAME AND LINE NUMBER OF MAN _____ [ ][ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY [ ][ ]
				MONTH [ ][ ]
				YEAR [ ][ ][ ][ ]
INTERVIEWER'S NAME	_____	_____	_____	INT. NO. [ ][ ][ ][ ]
RESULT*	_____	_____	_____	RESULT* [ ]
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS [ ]
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ SPECIFY

LANGUAGE OF QUESTIONNAIRE** 0 1
LANGUAGE OF INTERVIEW** [ ][ ]
NATIVE LANGUAGE OF RESPONDENT** [ ][ ]
TRANSLATOR USED (YES = 1, NO = 2) [ ]

LANGUAGE OF QUESTIONNAIRE** ENGLISH

**LANGUAGE CODES:
01 ENGLISH
02 LANGUAGE 2
03 LANGUAGE 3
04 LANGUAGE 4
05 LANGUAGE 5
06 LANGUAGE 6

SUPERVISOR		FIELD EDITOR		OFFICE EDITOR	KEYED BY
NAME	NUMBER	NAME	NUMBER	NUMBER	NUMBER
_____	[ ][ ][ ][ ]	_____	[ ][ ][ ][ ]	[ ][ ]	[ ][ ]

(1) This section should be adapted for country-specific survey design.
Note: Questions with blue highlighting in the question number column are HIV-related questions that may be deleted in some circumstances (see footnotes). Questions with yellow highlighting in the question number column are other questions that may be deleted in some circumstances (see footnotes). Brackets [ ] indicate items that should be adapted on a country-specific basis.

INTRODUCTION AND CONSENT

(1)

Hello. My name is _____. I am working with [NAME OF ORGANIZATION]. We are conducting a survey about health and other topics all over [NAME OF COUNTRY]. The information we collect will help the government to plan health services. Your household was selected for the survey. The questions usually take about 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the person listed on the card that has already been given to your household.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER _____ DATE _____

RESPONDENT AGREES TO BE INTERVIEWED . . 1 ↓

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . 2 → END

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	How long have you been living continuously in (NAME OF CURRENT CITY, TOWN OR VILLAGE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS . . . . . ☐☐ ALWAYS . . . . . 95 VISITOR 96	→ 105
103	Just before you moved here, did you live in a city, in a town, or in a rural area?	CITY . . . . . 1 TOWN . . . . . 2 RURAL AREA 3	
104	Before you moved here, which [PROVINCE/REGION/STATE] did you live in?	[PROVINCE/REGION/STATE] . . . . . 01 [PROVINCE/REGION/STATE] . . . . . 02 [PROVINCE/REGION/STATE] . . . . . 03 OUTSIDE OF [COUNTRY] 96	
105	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS . . . . . ☐☐	
107	Have you ever attended school?	YES . . . . . 1 NO 2	→ 111
108 (2)	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 HIGHER 3	

109 (2)	What is the highest [GRADE/FORM/YEAR] you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	[GRADE/FORM/YEAR]	
110	CHECK 108: PRIMARY OR SECONDARY HIGHER → 113		
111 (3)	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 ABLE TO READ ONLY PART OF THE SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE . . . . . 3 NO CARD WITH REQUIRED LANGUAGE 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
112	CHECK 111: CODE '2', '3' OR '4' CIRCLED CODE '1' OR '5' CIRCLED → 114		
113	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
114	Do you listen to the radio at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
115	Do you watch television at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
116	Do you own a mobile telephone?	YES . . . . . 1 NO . . . . . 2 → 118	
117	Do you use your mobile phone for any financial transactions?	YES . . . . . 1 NO 2	
118	Do you have an account in a bank or other financial institution that you yourself use?	YES . . . . . 1 NO 2	

119	Have you ever used the internet?	YES . . . . . 1 NO 2	→ 122
120	In the last 12 months, have you used the internet? IF NECESSARY, PROBE FOR USE FROM ANY LOCATION, WITH ANY DEVICE.	YES . . . . . 1 NO 2	→ 122
121	During the last one month, how often did you use the internet: almost every day, at least once a week, less than once a week, or not at all?	ALMOST EVERY DAY . . . . . 1 AT LEAST ONCE A WEEK . . . . . 2 LESS THAN ONCE A WEEK . . . . . 3 NOT AT ALL 4	
122	COUNTRY-SPECIFIC QUESTION ON RELIGION, IF APPROPRIATE.		
123	COUNTRY-SPECIFIC QUESTION ON ETHNICITY, IF APPROPRIATE.		
124 (4)	In the last 12 months, how many times have you been away from home for one or more nights?	NUMBER OF TIMES . . . . . [ ][ ] NONE 00	→ 201
125 (4)	In the last 12 months, have you been away from home for more than one month at a time?	YES . . . . . 1 NO 2	

(1) Increase the time reported to the respondent if modules are added to the questionnaire.
(2) Revise according to the local education system.
(3) Each card should have four simple sentences appropriate to the country (e.g., "Parents love their children.", "Farming is hard work.", "The child is reading a book.", "Children work hard at school."). Cards should be prepared for every language in which respondents are likely to be literate.

(4) The question may be considered for deletion in countries with a very low HIV prevalence.

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about any children you have had during your life. I am interested in all of the children that are biologically yours, even if they are not legally yours or do not have your last name. Have you ever fathered any children with any woman?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 206
202	Do you have any sons or daughters that you have fathered who are now living with you?	YES . . . . . 1 NO 2	→ 204
203	a) How many sons live with you? b) And how many daughters live with you? IF NONE, RECORD '00'.	a) SONS AT HOME . . . . . [ ][ ] b) DAUGHTERS AT HOME . . . . . [ ][ ]	
204	Do you have any sons or daughters that you have fathered who are alive but do not live with you?	YES . . . . . 1 NO 2	→ 206
205	a) How many sons are alive but do not live with you? b) And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	a) SONS ELSEWHERE . . . . . [ ][ ] b) DAUGHTERS ELSEWHERE . . . . . [ ][ ]	
206	Have you ever fathered a son or a daughter who was born alive but later died? IF NO, PROBE: Any baby who cried, who made any movement, sound, or effort to breathe, or who showed any other signs of life even if for a very short time?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 208
207	a) How many boys have died? b) And how many girls have died? IF NONE, RECORD '00'.	a) BOYS DEAD . . . . . [ ][ ] b) GIRLS DEAD . . . . . [ ][ ]	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL CHILDREN . . . . . [ ][ ]	

209	CHECK 208: HAS HAD MORE THAN ONE CHILD HAS HAD ONLY ONE CHILD → 211 HAS NOT HAD ANY CHILDREN → 301		
210	Did all of the children you have fathered have the same biological mother?	YES . . . . . 1 NO 2	
211	CHECK 208: HAS HAD MORE THAN ONE CHILD a) How old were you when your first child was born? HAS HAD ONLY ONE CHILD b) How old were you when your child was born?	AGE IN YEARS	
212	CHECK 203 AND 205: AT LEAST ONE LIVING CHILD NO LIVING CHILDREN → 301		
213	CHECK 203 AND 205: MORE THAN ONE LIVING CHILD a) How old is your youngest child? ONLY ONE LIVING CHILD b) How old is your child?	AGE IN YEARS	
214	CHECK 213: (YOUNGEST) CHILD IS AGE 0-2 YEARS (YOUNGEST) CHILD IS AGE 3 YEARS OR OLDER → 301		
215	CHECK 203 AND 205: MORE THAN ONE LIVING CHILD a) What is the name of your youngest child? ONLY ONE LIVING CHILD b) What is the name of your child?	_____ (NAME OF (YOUNGEST) CHILD)	
216	When (NAME)'s mother was pregnant with (NAME), did she have any antenatal check-ups?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 218
217	Were you ever present during any of those antenatal check-ups?	PRESENT . . . . . 1 NOT PRESENT 2	
218	Was (NAME) born in a hospital or health facility?	HOSPITAL/HEALTH FACILITY . . . . . 1 OTHER 2	
219	When a child has diarrhea, how much should he or she be given to drink: more than usual, about the same as usual, less than usual, or nothing to drink at all?	MORE THAN USUAL . . . . . 1 ABOUT THE SAME . . . . . 2 LESS THAN USUAL . . . . . 3 NOTHING TO DRINK . . . . . 4 DON'T KNOW 8	

SECTION 3. CONTRACEPTION

301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Have you ever heard of (METHOD)?		
01	Female Sterilization. PROBE: Women can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	
02	Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	YES . . . . . 1 NO 2	
03	IUD. PROBE: Women can have a loop or coil placed inside them by a doctor or a nurse which can prevent pregnancy for one or more years.	YES . . . . . 1 NO 2	
04	Injectables. PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES . . . . . 1 NO 2	
05	Implants. PROBE: Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES . . . . . 1 NO 2	
06	Pill. PROBE: Women can take a pill every day to avoid becoming pregnant.	YES . . . . . 1 NO 2	
07	Condom. PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	YES . . . . . 1 NO 2	
08	Female Condom. PROBE: Women can place a sheath in their vagina before sexual intercourse.	YES . . . . . 1 NO 2	
09 (1)	Emergency Contraception. PROBE: As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	YES . . . . . 1 NO 2	
10 (2)	Standard Days Method. PROBE: A woman uses a string of colored beads to know the days she can get pregnant. On the days she can get pregnant, she uses a condom or does not have sexual intercourse.	YES . . . . . 1 NO 2	
11 (3)	Lactational Amenorrhea Method (LAM). PROBE: Up to six months after childbirth, before the menstrual period has returned, women use a method requiring frequent breastfeeding day and night.	YES . . . . . 1 NO 2	
12	Rhythm Method. PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	YES . . . . . 1 NO 2	
13	Withdrawal. PROBE: Men can be careful and pull out before climax.	YES . . . . . 1 NO 2	
14	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES, MODERN METHOD _____ A (SPECIFY) YES, TRADITIONAL METHOD _____ B (SPECIFY) NO . . . . . Y	

SECTION 3. CONTRACEPTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
302	In the last few months have you:	YES NO	
	a) Heard about family planning on the radio?	a) RADIO 1 2	
	b) Seen anything about family planning on the television?	b) TELEVISION 1 2	
	c) Read about family planning in a newspaper or magazine?	c) NEWSPAPER OR MAGAZINE 1 2	
	d) Received a voice or text message about family planning on a mobile phone?	d) MOBILE PHONE 1 2	
303	In the last few months, have you discussed family planning with a health worker or health professional?	YES . . . . . 1 NO 2	
304	Now I would like to ask you about a woman's risk of pregnancy. From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant when she has sexual relations?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 306
305	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS . . . . . 1 DURING HER PERIOD . . . . . 2 RIGHT AFTER HER PERIOD HAS ENDED . . . . . 3 HALFWAY BETWEEN TWO PERIODS . . . . . 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
306	After the birth of a child, can a woman become pregnant before her menstrual period has returned?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
307	I will now read you some statements about contraception. Please tell me if you agree or disagree with each one.	AGREE DISAGREE DK	
	a) Contraception is a woman's concern and a man should not have to worry about it.	a) CONTRACEPTION WOMAN'S CONCERN 1 2 8	
	b) Women who use contraception may become promiscuous.	b) WOMEN MAY BECOME PROMISCUOUS 1 2 8	

(1) Studies have indicated emergency contraception can be effective up to five days. Verify country program recommendations and modify wording if appropriate.

(2) The Standard Days Method (SDM) should be deleted in countries that do not have a SDM program. In these countries, SDM should also be deleted as a coding category in Q. 440.

(3) The LAM method should be deleted in countries that do not have a LAM program. In these countries, LAM should also be deleted as a coding category in Q. 440.

SECTION 4. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	Are you currently married or living together with a woman as if married?	YES, CURRENTLY MARRIED . . . . . 1 YES, LIVING WITH A WOMAN . . . . . 2 NO, NOT IN UNION 3	→ 404
402	Have you ever been married or lived together with a woman as if married?	YES, FORMERLY MARRIED . . . . . 1 YES, LIVED WITH A WOMAN . . . . . 2 NO 3	→ 413
403	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED . . . . . 1 DIVORCED . . . . . 2 SEPARATED 3	→ 410
404	Is your (wife/partner) living with you now or is she staying elsewhere?	LIVING WITH HIM . . . . . 1 STAYING ELSEWHERE 2	
405 (1)	Do you have other wives or do you live with other women as if married?	YES (MORE THAN ONE WIFE) . . . . . 1 NO (ONLY ONE WIFE) 2	→ 407
406 (1)	Altogether, how many wives or live-in partners do you have?	TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS	
407 (1)	CHECK 405: ONE WIFE/ PARTNER a) Please tell me the name of (your wife/the woman you are living with as if married). MORE THAN ONE WIFE/ PARTNER b) Please tell me the name of each of your wives or each woman you are living with as if married. RECORD THE NAME AND THE LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE AND LIVE-IN PARTNER. IF A WOMAN IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME / LINE NUMBER	408 (1) How old was (NAME) on her last birthday? AGE
408 (1)	ASK 408 FOR EACH PERSON.		
409 (1)	CHECK 407: ONE WIFE/ PARTNER MORE THAN ONE WIFE/ PARTNER		→ 411
410	Have you been married or lived with a woman only once or more than once?	MORE THAN ONCE . . . . . 1 ONLY ONCE 2	
411	CHECK 405 AND 410: BOTH ARE CODE '2' a) In what month and year did you start living with your (wife/partner)? OTHER b) Now I would like to ask about your first (wife/partner). In what month and year did you start living with her?	MONTH . . . . . DON'T KNOW MONTH . . . . . 98 YEAR . . . . . DON'T KNOW YEAR 9998	→ 413
412	How old were you when you first started living with her?	AGE	

	#	CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
414	I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues. Let me assure you again that your answers are completely confidential and will not be told to anyone. If we should come to any question that you don't want to answer, just let me know and we will go to the next question. How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS		→ 501
415	I would like to ask you about your recent sexual activity. When was the last time you had sexual intercourse? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . . 1 WEEKS AGO . . . . . 2 MONTHS AGO . . . . . 3 YEARS AGO 4		→ 417 → 427

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
416	When was the last time you had sexual intercourse with this person?		DAYS AGO .. 1 WEEKS AGO .. 2 MONTHS AGO .. 3	DAYS AGO .. 1 WEEKS AGO .. 2 MONTHS AGO .. 3
417 (2)	The last time you had sexual intercourse with this person, was a condom used?	YES .... 1 NO .... 2 (SKIP TO 419)	YES .... 1 NO .... 2 (SKIP TO 419)	YES .... 1 NO .... 2 (SKIP TO 419)
418	Was a condom used every time you had sexual intercourse with this person in the last 12 months?	YES .... 1 NO 2	YES .... 1 NO 2	YES .... 1 NO 2
419 (3)	What was your relationship to this person with whom you had sexual intercourse? IF GIRLFRIEND: Were you living together as if married? IF YES, RECORD '2'. IF NO, RECORD '3'.	WIFE .... 1 LIVE-IN PARTNER ..... 2 GIRLFRIEND NOT LIVING WITH RESPONDENT ..... 3 CASUAL ACQUAINTANCE .. 4 CLIENT/SEX WORKER .. 5 OTHER ______ 6 (SPECIFY)	WIFE .... 1 LIVE-IN PARTNER ..... 2 GIRLFRIEND NOT LIVING WITH RESPONDENT ..... 3 CASUAL ACQUAINTANCE .. 4 CLIENT/SEX WORKER .. 5 OTHER ______ 6 (SPECIFY)	WIFE .... 1 LIVE-IN PARTNER ..... 2 GIRLFRIEND NOT LIVING WITH RESPONDENT ..... 3 CASUAL ACQUAINTANCE .. 4 CLIENT/SEX WORKER .. 5 OTHER ______ 6 (SPECIFY)
420	How long ago did you first have sexual intercourse with this person?	DAYS AGO .. 1 WEEKS AGO .. 2 MONTHS AGO .. 3 YEARS AGO .. 4	DAYS AGO .. 1 WEEKS AGO .. 2 MONTHS AGO .. 3 YEARS AGO .. 4	DAYS AGO .. 1 WEEKS AGO .. 2 MONTHS AGO .. 3 YEARS AGO .. 4
421	How many times during the last 12 months did you have sexual intercourse with this person? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF TIMES IS 95 OR MORE, RECORD '95'.	NUMBER OF TIMES	NUMBER OF TIMES	NUMBER OF TIMES .....
422	How old is this person?	AGE OF PARTNER DON'T KNOW 98	AGE OF PARTNER DON'T KNOW 98	AGE OF PARTNER DON'T KNOW 98
423	Apart from this person, have you had sexual intercourse with any other person in the last 12 months?	YES .... 1 (GO BACK TO 416 IN NEXT COLUMN) NO .... 2 (SKIP TO 425)	YES .... 1 (GO BACK TO 416 IN NEXT COLUMN) NO .... 2 (SKIP TO 425)	
424	In total, with how many different people have you had sexual intercourse in the last 12 months? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, RECORD '95'.			NUMBER OF PARTNERS LAST 12 MONTHS .. DON'T KNOW 98

SECTION 4. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
425	CHECK 419 (ALL COLUMNS): AT LEAST ONE PARTNER IS A SEX WORKER ☐ ↓ NO PARTNERS ARE SEX WORKERS ☐ → 427		
426	CHECK 419 AND 417 (ALL COLUMNS): CONDOM USED WITH EVERY SEX WORKER ☐ → 430 OTHER ☐ → 431		
427	In the last 12 months, did you pay anyone in exchange for having sexual intercourse?	YES . . . . . 1 NO 2	→ 429
428	Have you ever paid anyone in exchange for having sexual intercourse?	YES . . . . . 1 NO 2	→ 431
429 (2)	The last time you paid someone in exchange for having sexual intercourse, was a condom used?	YES . . . . . 1 NO 2	→ 431
430	Was a condom used during sexual intercourse every time you paid someone in exchange for having sexual intercourse in the last 12 months?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
431	In the past 12 months have you given any gifts or other goods in order to have sex or to become sexually involved with anyone?	YES . . . . . 1 NO 2	→ 433
432	Have you ever given any gifts or other goods in order to have sex or to become sexually involved with anyone?	YES . . . . . 1 NO 2	
433	In total, with how many different people have you had sexual intercourse in your lifetime? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS 95 OR MORE, RECORD '95'.	NUMBER OF PARTNERS IN LIFETIME . . . . . ☐☐ DON'T KNOW 98	
434 (2)	CHECK 417: MOST RECENT PARTNER (FIRST COLUMN) CONDOM USED ☐ ↓ NOT ASKED ☐ → 438 NO CONDOM USED ☐ → 438		
435 (2)	You told me that a condom was used the last time you had sex. What is the brand name of the condom used at that time? IF BRAND NOT KNOWN, ASK TO SEE THE PACKAGE.	BRAND A . . . . . 01 BRAND B . . . . . 02 BRAND C . . . . . 03 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

436 (2) (4)	From where did you obtain the condom the last time? PROBE TO IDENTIFY TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVERNMENT HOSPITAL . . . . . 11 GOVERNMENT HEALTH CENTER . . . . . 12 FAMILY PLANNING CLINIC . . . . . 13 MOBILE CLINIC . . . . . 14 FIELDWORKER . . . . . 15 OTHER PUBLIC SECTOR 16 _____ (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC . . . . . 21 PHARMACY . . . . . 22 PRIVATE DOCTOR . . . . . 23 MOBILE CLINIC . . . . . 24 FIELDWORKER . . . . . 25 OTHER PRIVATE MEDICAL SECTOR 26 _____ (SPECIFY) **OTHER SOURCE** SHOP . . . . . 31 CHURCH . . . . . 32 FRIEND/RELATIVE . . . . . 33 OTHER 96 _____ (SPECIFY) DON'T KNOW 98	
437	The last time you had sex did you or your partner use any method other than a condom to avoid or prevent a pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 439 → 440
438	The last time you had sex did you or your partner use any method to avoid or prevent a pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 440
439 (5) (6)	What method did you or your partner use? PROBE: Did you or your partner use any other method to prevent pregnancy? RECORD ALL MENTIONED.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B IUD . . . . . C INJECTABLES . . . . . D IMPLANTS . . . . . E PILL . . . . . F CONDOM . . . . . G FEMALE CONDOM . . . . . H EMERGENCY CONTRACEPTION . . . . . I STANDARD DAYS METHOD . . . . . J LACTATIONAL AMENORRHEA METHOD . . . . . K RHYTHM METHOD . . . . . L WITHDRAWAL . . . . . M OTHER MODERN METHOD . . . . . X OTHER TRADITIONAL METHOD . . . . . Y	→ 501
440	Do you know of a place where you can obtain a method of family planning?	YES . . . . . 1 NO 2	

SECTION 4. FOOTNOTES

(1) Delete Qs. 405-409 in countries where polygyny is not practiced and replace with Q. 705 from the Woman's Questionnaire with the word 'HUSBAND'S' replaced with 'WIFE'S' and 'HE' replaced with 'SHE'.
(2) In countries with an active female condom program, the wording of the question should be modified to include reference to both the male and female condom.
(3) High polygyny, high HIV prevalence countries may want to add line number of wife from Q. 407 here in the response category.
(4) Coding categories to be developed locally; however, the broad categories must be maintained. Additions to the codes under the private medical sector heading may include religious affiliated sources and NGO sources.
(5) The LAM method coding category should be deleted in countries that do not have a LAM program.
(6) The Standard Days Method (SDM) should be deleted in countries that do not have a SDM program.

SECTION 5. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 401: CURRENTLY MARRIED OR LIVING WITH A PARTNER ☐ NOT CURRENTLY MARRIED AND NOT LIVING WITH A PARTNER ☐ → 514		
502	CHECK 439: MAN NOT STERILIZED ☐ MAN STERILIZED ☐ → 514		
503 (1)	CHECK 407: ONE WIFE/ PARTNER ☐ MORE THAN ONE WIFE/ PARTNER ☐ → 509		
504	Is your (wife/partner) currently pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 507
505	Now I have some questions about the future. After the child you and your (wife/partner) are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE ANOTHER CHILD . . . . . 1 NO MORE . . . . . 2 UNDECIDED/DON'T KNOW 8	→ 514
506	After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 OTHER _____ (SPECIFY) 996 DON'T KNOW 998	→ 514
507	CHECK 208: HAS FATHERED CHILDREN ☐ a) Now I have some questions about the future. Would you like to have another child, or would you prefer not to have any more children? HAS NOT FATHERED CHILDREN ☐ b) Now I have some questions about the future. Would you like to have a child, or would you prefer not to have any children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS COUPLE CAN'T GET PREGNANT . . . . . 3 WIFE/PARTNER STERILIZED . . . . . 4 UNDECIDED/DON'T KNOW 8	→ 514
508	CHECK 208: HAS FATHERED CHILDREN ☐ a) How long would you like to wait from now before the birth of another child? HAS NOT FATHERED CHILDREN ☐ b) How long would you like to wait from now before the birth of a child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 SAYS COUPLE CAN'T GET PREGNANT . . . . . 994 OTHER _____ (SPECIFY) 996 DON'T KNOW 998	→ 514
509 (1)	Are any of your (wives/partners) currently pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 512

510 (1)	Now I have some questions about the future. After the (child/children) you and your (wives/partners) are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE ANOTHER CHILD . . . . . 1 NO MORE . . . . . 2 UNDECIDED/DON'T KNOW . . . . . 8 → 514
511 (1)	After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 OTHER _____ 996 (SPECIFY) DON'T KNOW . . . . . 998 → 514
512 (1)	CHECK 208: HAS FATHERED CHILDREN ☐ → a) Now I have some questions about the future. Would you like to have another child, or would you prefer not to have any more children? HAS NOT FATHERED CHILDREN ☐ → b) Now I have some questions about the future. Would you like to have a child, or would you prefer not to have any children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS COUPLE CAN'T GET PREGNANT . . . . . 3 (WIFE/WIVES/PARTNER(S)) STERILIZED . . . . . 4 UNDECIDED/DON'T KNOW . . . . . 8 → 514
513 (1)	CHECK 208: HAS FATHERED CHILDREN ☐ → a) How long would you like to wait from now before the birth of another child? HAS NOT FATHERED CHILDREN ☐ → b) How long would you like to wait from now before the birth of a child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 SAYS COUPLE CAN'T GET PREGNANT . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998
514	CHECK 203 AND 205: HAS LIVING CHILDREN ☐ → a) If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ → b) If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 → 601 NUMBER . . . . . ☐☐ OTHER _____ 96 → 601 (SPECIFY)
515	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	BOYS GIRLS EITHER NUMBER . . ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)

(1) This question should be deleted in countries where polygyny is not practiced.

SECTION 6. EMPLOYMENT AND GENDER ROLES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Have you done any work in the last seven days?	YES . . . . . 1 NO 2	→ 604
602	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, or any other such reason?	YES . . . . . 1 NO 2	→ 604
603	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 607
604	What is your occupation? That is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
605	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . . . . . 2 ONCE IN A WHILE 3	
606	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	
607	CHECK 401: CURRENTLY MARRIED OR LIVING WITH A PARTNER ☐ ↓ NOT CURRENTLY MARRIED AND NOT LIVING WITH A PARTNER ☐		→ 612
608	CHECK 606: CODE '1' OR '2' CIRCLED ☐ ↓ OTHER ☐		→ 610
609	Who usually decides how the money you earn will be used: you, your (wife/partner), or you and your (wife/partner) jointly?	RESPONDENT . . . . . 1 WIFE/PARTNER . . . . . 2 RESPONDENT AND WIFE/PARTNER JOINTLY . . 3 OTHER _____ 6 (SPECIFY)	
610	Who usually makes decisions about health care for yourself: you, your (wife/partner), you and your (wife/partner) jointly, or someone else?	RESPONDENT . . . . . 1 WIFE/PARTNER . . . . . 2 RESPONDENT AND WIFE/PARTNER JOINTLY . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	
611	Who usually makes decisions about making major household purchases?	RESPONDENT . . . . . 1 WIFE/PARTNER . . . . . 2 RESPONDENT AND WIFE/PARTNER JOINTLY . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	

612	Do you own this or any other house either alone or jointly with someone else?	ALONE ONLY . . . . . 1 JOINTLY ONLY . . . . . 2 BOTH ALONE AND JOINTLY . . . . . 3 DOES NOT OWN 4	→ 615
613	Do you have a title deed for any house you own?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 615
614	Is your name on the title deed?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
615	Do you own any agricultural or non-agricultural land either alone or jointly with someone else?	ALONE ONLY . . . . . 1 JOINTLY ONLY . . . . . 2 BOTH ALONE AND JOINTLY . . . . . 3 DOES NOT OWN 4	→ 618
616	Do you have a title deed for any land you own?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 618
617	Is your name on the title deed?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
618	In your opinion, is a husband justified in hitting or beating his wife in the following situations: a) If she goes out without telling him? b) If she neglects the children? c) If she argues with him? d) If she refuses to have sex with him? e) If she burns the food?	YES NO DK a) GOES OUT . . . . . 1 2 8 b) NEGLECTS CHILDREN . . 1 2 8 c) ARGUES . . . . . 1 2 8 d) REFUSES SEX . . . . . 1 2 8 e) BURNS FOOD 1 2 8	

SECTION 7. HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Now I would like to talk about something else. Have you ever heard of HIV or AIDS?	YES . . . . . 1 NO 2	→ 727
702	HIV is the virus that can lead to AIDS. Can people reduce their chance of getting HIV by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
703 (1)	Can people get HIV from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
704	Can people reduce their chance of getting HIV by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
705 (1)	Can people get HIV by sharing food with a person who has HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
706 (1)	Can people get HIV because of witchcraft or other supernatural means?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
707	Is it possible for a healthy-looking person to have HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
708	Can HIV be transmitted from a mother to her baby: a) During pregnancy? b) During delivery? c) By breastfeeding?	YES NO DK a) DURING PREGNANCY . . 1 2 8 b) DURING DELIVERY . . . . . 1 2 8 c) BREASTFEEDING 1 2 8	
709	CHECK 708: AT LEAST ONE 'YES' ↓ OTHER →		711
710	Are there any special drugs that a doctor or a nurse can give to a woman infected with HIV to reduce the risk of transmission to the baby?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
711	**CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.**		
712	I don't want to know the results, but have you ever been tested for HIV?	YES . . . . . 1 NO 2	→ 716
713	How many months ago was your most recent HIV test?	MONTHS AGO . . . . . [ ][ ] TWO OR MORE YEARS 95	

714	I don't want to know the results, but did you get the results of the test?	YES . . . . . 1 NO 2	
715 (2)	Where was the test done? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVERNMENT HOSPITAL . . . . . 11 GOVERNMENT HEALTH CENTER . . . . . 12 STAND-ALONE HTC CENTER . . . . . 13 FAMILY PLANNING CLINIC . . . . . 14 MOBILE HTC SERVICES . . . . . 15 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC/ PRIVATE DOCTOR . . . . . 21 STAND-ALONE HTC CENTER . . . . . 22 PHARMACY . . . . . 23 MOBILE HTC SERVICES . . . . . 24 OTHER PRIVATE MEDICAL SECTOR _____ 26 (SPECIFY) **OTHER SOURCE** HOME . . . . . 31 WORKPLACE . . . . . 32 CORRECTIONAL FACILITY . . . . . 33 OTHER _____ 96 (SPECIFY)	→ 718
716	Do you know of a place where people can go to get an HIV test?	YES . . . . . 1 NO 2	→ 718
717 (2)	Where is that? Any other place? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVERNMENT HOSPITAL . . . . . A GOVERNMENT HEALTH CENTER . . . . . B STAND-ALONE HTC CENTER . . . . . C FAMILY PLANNING CLINIC . . . . . D MOBILE HTC SERVICES . . . . . E OTHER PUBLIC SECTOR _____ F (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC/ PRIVATE DOCTOR . . . . . G STAND-ALONE HTC CENTER . . . . . H PHARMACY . . . . . I MOBILE HTC SERVICES . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) OTHER _____ X (SPECIFY)	
718	Have you heard of test kits people can use to test themselves for HIV?	YES . . . . . 1 NO 2	→ 720
719	Have you ever tested yourself for HIV using a self-test kit?	YES . . . . . 1 NO 2	

720	Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
721	Do you think children living with HIV should be allowed to attend school with children who do not have HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
722	Do you think people hesitate to take an HIV test because they are afraid of how other people will react if the test result is positive for HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
723	Do people talk badly about people living with HIV, or who are thought to be living with HIV?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
724	Do people living with HIV, or thought to be living with HIV, lose the respect of other people?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
725	Do you agree or disagree with the following statement: I would be ashamed if someone in my family had HIV.	AGREE . . . . . 1 DISAGREE . . . . . 2 DON'T KNOW/NOT SURE/DEPENDS 8	
726	Do you fear that you could get HIV if you come into contact with the saliva of a person living with HIV?	YES . . . . . 1 NO . . . . . 2 SAYS HE HAS HIV . . . . . 3 DON'T KNOW/NOT SURE/DEPENDS 8	
727	CHECK 701: HEARD ABOUT HIV OR AIDS ☐ / NOT HEARD ABOUT HIV OR AIDS ☐ a) Apart from HIV, have you heard about other infections that can be transmitted through sexual contact? / b) Have you heard about infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	
728	CHECK 414: HAS HAD SEXUAL INTERCOURSE ☐ / NEVER HAD SEXUAL INTERCOURSE ☐ → 736		
729	CHECK 727: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES ☐ / NO ☐ → 731		
730	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
731	Sometimes men experience an abnormal discharge from their penis. During the last 12 months, have you had an abnormal discharge from your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
732	Sometimes men have a sore or ulcer near their penis. During the last 12 months, have you had a sore or ulcer on or near your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

733	CHECK 730, 731 AND 732: HAS HAD AN INFECTION (ANY 'YES') ☐ ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐ → 736		
734	The last time you had (PROBLEM FROM 730/731/732), did you seek any kind of advice or treatment?	YES . . . . . 1 NO . . . . . 2 → 736	
735 (2)	Where did you go? Any other place? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**PUBLIC SECTOR** GOVERNMENT HOSPITAL . . . . . A GOVERNMENT HEALTH CENTER . . . . . B STAND-ALONE HTC CENTER . . . . . C FAMILY PLANNING CLINIC . . . . . D MOBILE HTC SERVICES . . . . . E OTHER PUBLIC SECTOR _____ F (SPECIFY) **PRIVATE MEDICAL SECTOR** PRIVATE HOSPITAL/CLINIC/ PRIVATE DOCTOR . . . . . G STAND-ALONE HTC CENTER . . . . . H PHARMACY . . . . . I MOBILE HTC SERVICES . . . . . J OTHER PRIVATE MEDICAL SECTOR _____ K (SPECIFY) **OTHER SOURCE** SHOP . . . . . L OTHER _____ X (SPECIFY)	
736	If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in asking that they use a condom when they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
737 (3)	Is a wife justified in refusing to have sex with her husband when she knows he has sex with other women?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

(1) If Qs. 703, 705 and/or 706 do not apply to the local context, replace the question using a specific local misconception. At least two questions related to misconceptions are needed.

(2) Coding categories to be developed locally; however, the broad categories must be maintained. Additions to the codes under the private medical sector heading may include religious affiliated sources and NGO sources.

(3) In polygynous societies, the phrase 'other women' should be replaced by the phrase 'women other than his wives.'

SECTION 8. OTHER HEALTH ISSUES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801 (1)	Some men are circumcised, that is, the foreskin is completely removed from the penis. Are you circumcised?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 805
802 (1)	How old were you when you got circumcised?	AGE IN COMPLETED YEARS . . . . . [ ][ ] DURING CHILDHOOD (<5 YEARS) . . . . . 95 DON'T KNOW 98	
803 (1)	Who did the circumcision?	TRADITIONAL PRACTITIONER/FAMILY/FRIEND . . 1 HEALTH WORKER/PROFESSIONAL . . . . . 2 OTHER . . . . . 3 DON'T KNOW 8	
804 (1)	Where was it done?	HEALTH FACILITY . . . . . 1 HOME OF A HEALTH WORKER/PROFESSIONAL . . 2 CIRCUMCISION DONE AT HOME . . . . . 3 RITUAL SITE . . . . . 4 OTHER HOME/PLACE . . . . . 5 DON'T KNOW 8	
805	Now I would like to ask you some other questions relating to health matters. Have you had an injection for any reason in the last 12 months? IF YES: How many injections have you had? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . . . [ ][ ] NONE 00	→ 808
806	Among these injections, how many were administered by a doctor, a nurse, a pharmacist, a dentist, or any other health worker? IF NUMBER OF INJECTIONS IS 90 OR MORE, OR DAILY FOR 3 MONTHS OR MORE, RECORD '90'. IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE.	NUMBER OF INJECTIONS . . . . . [ ][ ] NONE 00	→ 808
807	The last time you got an injection from a health worker, did he/she take the syringe and needle from a new, unopened package?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
808	Do you currently smoke tobacco every day, some days, or not at all?	EVERY DAY . . . . . 1 SOME DAYS . . . . . 2 NOT AT ALL 3	→ 811 → 810
809	In the past, have you smoked tobacco every day?	YES . . . . . 1 NO 2	→ 812
810	In the past, have you ever smoked tobacco every day, some days, or not at all?	EVERY DAY . . . . . 1 SOME DAYS . . . . . 2 NOT AT ALL 3	→ 813

811 (2)	On average, how many of the following products do you currently smoke each day? Also, let me know if you use the product, but not every day. IF RESPONDENT REPORTS USING THE PRODUCT BUT NOT EVERY DAY, RECORD '888'. IF THE PRODUCT IS NOT USED AT ALL, RECORD '000'. a) Manufactured cigarettes? b) Hand-rolled cigarettes? c) Kreteks? d) Pipes full of tobacco? e) Cigars, cheroots, or cigarillos? f) Number of water pipe sessions? g) Any others? _____ (SPECIFY)	NUMBER DAILY a) MANUFACTURED CIGARETTES . . . . . [ ][ ][ ] b) HAND-ROLLED CIGARETTES . . . . . [ ][ ][ ] c) KRETEKS . . . . . [ ][ ][ ] d) PIPES FULL OF TOBACCO . . . . . [ ][ ][ ] e) CIGARS, CHEROOTS, OR CIGARILLOS . . . . . [ ][ ][ ] f) NUMBER OF WATER PIPE SESSIONS . . . . . [ ][ ][ ] g) OTHERS . . . . . [ ][ ][ ]	→ 813
812 (2)	On average, how many of the following products do you currently smoke each week? Also, let me know if you use the product, but not every week. IF RESPONDENT REPORTS USING THE PRODUCT BUT NOT EVERY WEEK, RECORD '888'. IF THE PRODUCT IS NOT USED AT ALL, RECORD '000'. a) Manufactured cigarettes? b) Hand-rolled cigarettes? c) Kreteks? d) Pipes full of tobacco? e) Cigars, cheroots, or cigarillos? f) Number of water pipe sessions? g) Any others? _____ (SPECIFY)	NUMBER WEEKLY a) MANUFACTURED CIGARETTES . . . . . [ ][ ][ ] b) HAND-ROLLED CIGARETTES . . . . . [ ][ ][ ] c) KRETEKS . . . . . [ ][ ][ ] d) PIPES FULL OF TOBACCO . . . . . [ ][ ][ ] e) CIGARS, CHEROOTS, OR CIGARILLOS . . . . . [ ][ ][ ] f) NUMBER OF WATER PIPE SESSIONS . . . . . [ ][ ][ ] g) OTHERS . . . . . [ ][ ][ ]	
813	Do you currently use smokeless tobacco every day, some days, or not at all?	EVERY DAY . . . . . 1 SOME DAYS . . . . . 2 → 815 NOT AT ALL . . . . . 3 → 816	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT INTERVIEW:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

EDITOR'S OBSERVATIONS