The Effects of Programming, Communication, and Equality on Contraceptive Uptake

A Gendered Analysis of Family Planning in Uganda and Kenya

by

Christie Basson

ch7730ba-s@student.lu.se

This paper aims to better understand how contraceptive uptake is influenced by both individual and environmental factors, specifically in sub-Saharan Africa, by comparing Uganda and Kenya as examples of different policy environments. Implementing a literature review and statistical regression, this paper analyses how various factors (including indicators of gender equality, family planning exposure, and socioeconomic and -demographic status) influence differences in female and male use of family planning methods. The findings confirm the importance of socioeconomic status, parity, and education for all groups and find that age has a gendered effect on contraceptive use. Additionally, this study finds that family planning messaging is effective in encouraging contraceptive use, especially for men, and that both opinions on and experience of women's equality have mixed effects on uptake. This study has potential implications not only for future research but also for policymakers who are concerned with expanding access to and use of contraceptives for all populations with need.

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List of Abbreviations

CPR – Contraceptive Prevalence Rate

DHS – Demographic Health Survey

FP – Family Planning

NGO – Nongovernmental Organisation

SBC – Social and Behavioural Change

SES – Socioeconomic Status

SHR – Sexual and Reproductive Health

SSA – Sub-Saharan Africa

TFR – Total Fertility Rate

WHO – World Health Organization

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1   Introduction

Access to contraceptives is important not only for reasons of health, safety, and wellbeing but also on the levels of self-determination and autonomy. The United Nations recognises individuals' sexual and reproductive rights as human rights and determine that nation states are obligated to provide reproductive health care services, goods, and facilities that are accessible, readily available, and of good quality (Kanem, 2018). However, despite the importance of this resource, an estimated 214 million women in low-income regions of the world want to avoid pregnancy but don't currently make use of contraceptives (WHO, 2017). If these women were to overcome the obstacles and have their demand for family planning met, each year 54 million unintended pregnancies, 79,000 maternal deaths, and over a million infant deaths could be prevented (Bongaarts et al., 2012). It is therefore a global imperative to increase access to contraceptives and both meet and expand need for family planning (FP). A comprehensive FP policy is now considered key to an effective development policy (Bongaarts, 2014) and both governments and NGOs invest many resources in the design, implementation, and evaluation of such programs, especially in low-income countries such as Uganda and Kenya.

Policies aimed at limiting fertility and stabilizing the global population have long been in effect. Following the advent of modern contraceptive methods in the 1960s and 70s, numerous governmental plans to encourage the uptake of contraceptive methods were implemented (Lapham & Mauldin, 1985). Many African governments today have devised a set of policies and programs around family planning to increase contraceptive prevalence rates (CPR) and limit fertility as the link between living standards and population size has become increasingly clear (Bongaarts, 2014). Most programs operate from the perspective that providing access to FP services provides women with autonomy and increases their health outcomes (Do & Kurimoto, 2012). FP services generally include those that relate to sexual and reproductive health (SRH) and include, but are not limited to, education, counselling, and procedures. Provision of these services has been proven to reduce child and maternal mortality, prevent unintended pregnancies and abortions, and limit the transmission of sexually transmitted diseases, including HIV/AIDS (Apanga & Adam, 2015).

1.1   Research Problem

The implementation of FP programming in Africa is tied intimately to the continent's unique fertility transition. Early fertility theory linked development and fertility decline – referred to as the Demographic Transition – where societies generally progress through stages of pre-transition (high-mortality-high-fertility) to transition (low-mortality-high-fertility) and, finally, to post-

transition (low-mortality-low-fertility) (Bao, 2021). This transition is illustrated in Figure 1. Most world regions have experienced this process, apart from parts of sub-Saharan Africa (SSA), including East Africa, where fertility remains conspicuously high. While indicators of development (including poverty, literacy, and mortality rates) are poorer in SSA than in many other world regions, there has nonetheless been progress over the last years (Tabutin & Schoumaker, 2020). However, these improvements have, for many countries, yielded underwhelming rates of fertility decline given the pattern of other nations. While indicators of modernization have had an effect on fertility decline in Africa, it did not follow established patterns and especially in eastern, western, and middle Africa, associations between education (an important indicator of development) and fertility have been traditionally lower than in the rest of the world (Castro Martín, 1995). As a result, scholars have hypothesized that a pronatalist society and cultural traditions affect the role that modernization has on fertility decline in Africa and that the decline may not follow expected trends (Goldstone, 2019).

Figure 1. The Demographic Tranisition
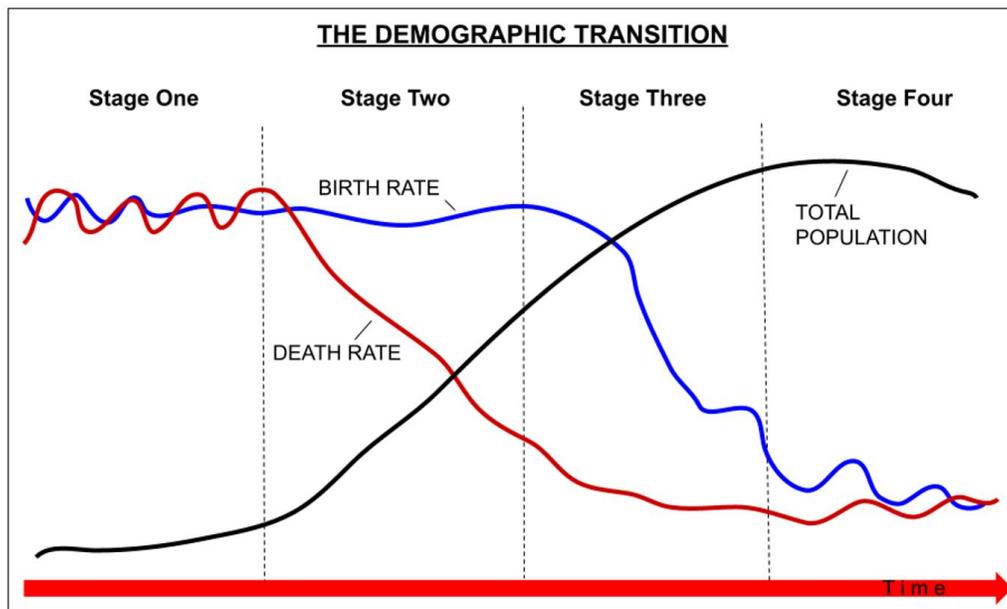
(Adapted from Thompson and Roberge (Thompson, 2015))

SSA has the highest percentage of youth of all world regions and given its extreme growth rates (Tabutin & Schoumaker, 2020), the region will have the biggest population by the end of the century. Thus, it is important to address the issue of population in the region and to implement strategies that will improve the health, economic standing, and well-being of those living there. Traditionally, fertility decline results from a few key factors, including economic development, cultural and ideation changes, mortality decline, government intervention, and diffusion (Bao, 2021). However, given the region's unique resistance to fertility decline, it is vital to consider SSA as an individual case and implement strategies that are designed specifically to address the distinctive barriers and incentives for limiting childbearing. For many Africans, it is not only still

largely beneficial to have many children given the high-mortality, agricultural setting, there are also fewer costs associated with having children than in other regions of the world.

It is also important to consider the mechanisms of fertility control. In 1978, Bongaarts reconstructed Davis and Blake's earlier work (1956) into a conceptual model to better measure causal mechanisms for fertility decline (Bongaarts, 1978). Figure 2. illustrates how fertility is affected in the model.

Figure 2: Bongaarts's Model of Fertility Determinants

Indirect Determinants		**Direct Determinants**		
Socioeconomic, cultural, and environmental variables	⟶	Intermediate fertility variables	⟶	**Fertility**
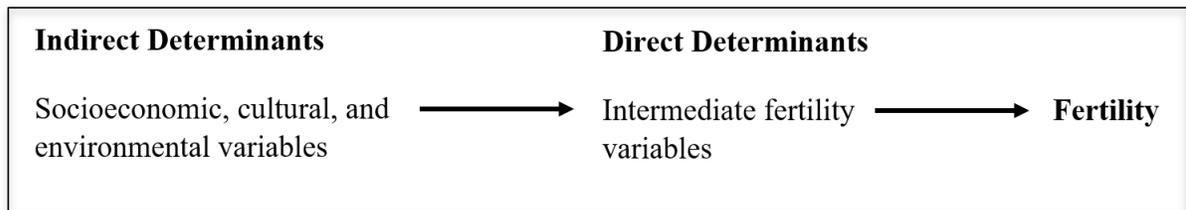
(Adapted from Bongaarts (1978))

Of the eight intermediate variables included in his model, Bongaarts found that four main mechanisms – marriage, contraception, lactation, and induced abortion – accounted for the majority of observed fertility decline. In the time since then, many efforts have focused specifically on contraceptive uptake because it is most easily influenced by programming efforts. Contraceptive access is a vital tool to limiting fertility as well as increasing reproductive health outcomes. This paper will address contraceptive and FP use as intertwined concepts and the two terms may be used interchangeably when discussing program effects.

SSA still maintains the highest global fertility rates, a fact that has been directly tied to low contraceptive prevalence (Tessema et al., 2021). As of 2019, the World Health Organisation reports that only 28% of in-union women are making use of a modern contraceptive method and only 17% of all women report an unmet need (WHO, 2019). Met need refers to women who report both that they currently want to use and are using contraceptives while unmet need refers to women who have a desire for contraceptives but lack access. When both met and unmet need is low, it is an indicator of low demand. This means that not many people are interested in limiting or stopping births and as a result do not make use of contraceptives. FP programming is part of the solution because it often creates demand by educating potential users about the benefits of contraception while simultaneously providing access. This helps to bring about the ideation and cultural change that is important for creating an accepting environment for contraceptive use. FP programs are cost-effective and beyond increasing health outcomes, they have demonstrable poverty-reducing effects (Bongaarts et al., 2012). This paper approaches the topic from the perspective that access to FP allows couples and especially women to make informed decisions about their fertility for the health and wellbeing of themselves and their families.

Previous research has confirmed the connection between socioeconomic and demographic factors (on both the individual and household levels) and contraceptive use (Stephenson et al., 2007).

Connections between education, parity, socioeconomic status, and region are well-established. However, applying a gendered lens to these subjects is less common, despite the widespread consensus that both women and men are important actors when it comes to limiting fertility (Hardee et al., 2017). Both women and men are subject to expectations as actors within their social settings and therefore community-level factors like norms and expectations have an important gendered effect on individuals' decisions to use contraception. Thus, there will be differences in how the demand for and use of contraception is shaped for women and men. If policy is to adequately address the need of all FP users, it is important to have an understanding of the factors that influence each group. The WHO lists gender inequity as one of the major impediments to women's health in the African region, and calls for programming to consider gender differences when attempting to increase access to services since women and men experience different risk factors, health-seeking behaviour, and outcomes (WHO, 2015). It is thus worthwhile, and in fact necessary, to focus on the influences of not only women's but couples' decision-making around contraceptives and the ways that gender equity can influence the use of FP.

Contraceptives and FP services are framed through a lens of empowerment in that they give women the means to plan their pregnancies, ultimately allowing them to space and limit births as well as balance other facets of their lives beyond childbirth. This paper is also interested in men's roles in the sphere of family planning and in understanding their involvement as the second, vital part of the FP puzzle. For decades now scholars have argued that men's exclusion from FP programming is detrimental to the cause and that their approval of and advocacy for contraceptives is the best way to increase use (Edwards, 1994). This paper will aim to better understand the different contributors to women and men's contraceptive use in the context of gender equity with an ultimate goal of exploring if indicators of equality affect women and men's uptake the same.

1.2   Contribution

This is not the first study to compare family planning in Uganda and Kenya, but it is one of few to do a direct comparison as opposed to a regional comparison including other bordering countries like Tanzania or Rwanda. Key differences in their approach to family planning programming and their economic and demographic histories make Uganda and Kenya interesting cases for comparison when trying to understand the relationship between determinants and contraceptive uptake. Therefore, I will make use of the most recently available Demographic Health Survey (DHS) for Uganda (2016) and Kenya (2014) and compare through a gendered lens the factors contributing to contraceptive use for the population with "true need." True need is defined as not currently being pregnant (or having a pregnant wife) and not desiring to have another child within a year. I will not only test for associations between FP and sociodemographic and -economic factors, but also for associations related to FP programming and interrelationship cooperation.

Because of the link to community-level factors, there has been a recent call to focus on social and behavioural changes (SBCs) when addressing barriers to contraceptive use, given the strong

connection between norms and fertility behaviour (Skinner et al., 2021). FP programs can implement SBC interventions (e.g., mass media and interpersonal communication) in order to influence contraceptive intentions and behaviours (Hutchinson et al., 2021). These programs not only promote the benefits of contraceptives and provide accurate information on their use, they also encourage norm changes and allow individuals to reframe the benefits of planning their fertility (Bongaarts et al., 2012). I will look at exposure to FP media as well as discussion of FP with a worker at a health facility in order to measure the efficacy of FP exposure specifically through this lens of norm-changes and behavioural expectations. Given that knowledge of contraceptive methods is at just below one hundred percent for all countries (Uganda Bureau of Statistics - UBOS, 2018; Kenya National Bureau of Statistics, 2015) the role of FP programming is no longer to provide information about methods but rather about encouraging uptake.

Kenya has had a longer history of family planning policy and a higher level of general development, so the assumption is that there will be interesting variances between these two countries based on the effect of programming. As a result, it is valuable to see how both women and men differ between the countries as well as between each other in order to better understand the best intervention points for FP programs. Given this information, this paper will determine the major contributors to contraceptive uptake among women and men in Uganda and Kenya, taking into account not only gendered differences but also country-level differences. It will focus specifically on how contraceptive uptake is influenced by indicators of FP programming and gender equality.

1.3 Outline of the Thesis

I will start with a section relaying the county contexts and relevant background factors for both Uganda and Kenya. The next section will present a review of existing literature and theory regarding contraceptive use and demand for FP services. I will discuss individual, interrelation, and community level factors that influence both women and men's attitudes towards FP and how those attitudes depend on gender expectations. I will then briefly relay my research approach and hypotheses. Next, I will present my data and methodology, followed by a presentation of the results. Finally, I will discuss my findings before concluding with final remarks on the findings and how they relate to expectations.

2   Background

In this section, I will give some background on the relevant histories and development of each country. I will also relay key differences in the SHR environment, and the family planning programs in Uganda and Kenya.

2.1   Demographics and Development

Figure 3: African Map of Uganda and Kenya
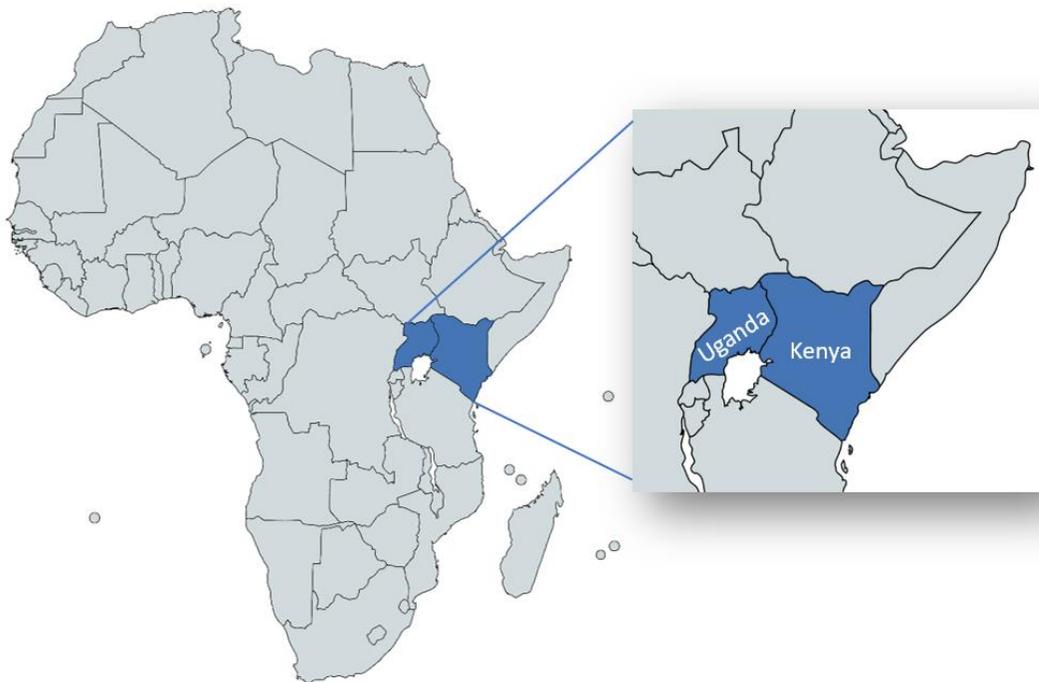
(Created with MapChart.net)

Uganda and Kenya are bordering East African nations in the African Great Lakes region. Besides being neighbours with generally similar colonial histories and cultural and social practices, they also share formal trade relations. The nations share English and Swahili as official languages and are both majority Christian with Muslim and Indigenous religions as minorities (Kokole, 2023; Ominde, 2023). However, Kenya does have an economic advantage over Uganda (see Table 1.) and this in part explains some of the difference between the nations on a demographic level. As a

result of the early adoption of family planning programs, Kenya's population growth has slowed significantly in comparison to that of Uganda.

Table 1: Key Demographic and Economic Numbers

	Total Population	Population Growth Rate (annual)	% Rural Population	Human Development Index Value	Gross National Income per Capita (constant 2017)
Uganda (2016)	38,748,299	3.3%	77%	0.519	2,052 PPP$
Kenya (2014)	45,831,863	2.3%	75%	0.561	3,542 PPP$

(Data from the World Bank and the United Nations' Human Development Reports)

In Kenya, population growth was early on identified as a concern as policy makers noted that the economy was not able to keep pace with the rapid growth experienced in the decades before the turn of the century (MOPHS, 2012). In early years, Kenya had a higher total fertility rate (TFR) than Uganda – women who survived their reproductive years would have had 8 children in Kenya compared 7.76 in Uganda for the years 1969-73 (Blacker et al., 2005). Blacker et al.'s analysis of the differences between two countries' fertility trends finds that the divergence in their fertility rates can almost entirely be attributed to different rates of contraceptive use. They find that in Uganda, wanted fertility was higher and the need for contraceptives was lower (Blacker et al., 2005). The authors suggest that economic development and modernisation plays a role on these differences. Previous multi-country studies have found that fertility-limiting behaviour originates with urban women who have primary-level educations and are married to white collar workers and from there, the transition spreads to other socioeconomic groups (Blacker et al., 2005). Economic development and education are therefore important tools to create a favourable environment for fertility choices centred around smaller families.

In 1971, Uganda was overtaken by the military dictator, Idi Amin. Through a series of hostile acts, his leadership ruined the Ugandan economy and severely hindered progress (Keatley, 2003). Schools were abandoned and hospitals severely understaffed; educated professionals fled; factories closed down as exports dwindled; and the Asian-led manufacturing industry crashed, ultimately leading to the utter collapse of the economy (Blacker et al., 2005). It is not surprising, therefore, that Uganda was not in a favourable position to spout economic prosperity and to build social infrastructure that would lead to norm changes. It would take decades to rebuild what had

been lost. Kenya, on the other hand, had experienced prosperity in the preceding decades and by the 1980s, there was nationally a favourable environment towards limiting childbearing. Blacker et al. couple this with the consequent decline in growth in the late eighties to explain why fertility declined as smaller families became the norm, both as a result of economic pressure and social acceptance (Blacker et al., 2005).

Access is the second component of the CPR divergence between the two countries. Kenya was the first nation in SSA to introduce a population policy in 1967 and although programming initially seemed lacklustre, by the mid-80s there was a rapid expansion of the number of outlets providing services and the amount of health workers trained in their provision (Blacker et al., 2005). Uganda, by contrast, did not introduce a policy until 1995 and by then, a history of decentralisation and urban bias had already created barriers for users. The national policy limited access to married women (who had to be accompanied by their husbands or provide documents stating their husbands' approval to access services) and prohibited the provision of services to adolescents (Blacker et al., 2005).

As a result of the early implementation of its FP policy, Kenya's progress in lowering fertility and increasing CPR is far ahead of many contemporaries. As seen in Table 1, Uganda's population is growing at a rate that is 1% higher than that of Kenya, meaning that despite starting at higher rates, Kenya's population growth has now slowed significantly. Uganda, on the other hand, has one of the highest growth rates in the world, along with Niger, Angola, and Chad (World Bank, 2023). Population growth can be a problem not only because of the immediate strain on the economy on a yearly-basis, but also because of how it influences future generations. In this regard also, Kenya is better situated than Uganda. If there are many youthful members of the society, they may create a large ratio of dependents to workforce contributors. This leads to economic strain and may be an issue for the government. As of 2014, 55% of Uganda's population was below age 18 (UBS, 2023). In roughly the same time period, Kenya's youth comprised 45% of the population (MOPHS, 2012). It is therefore relevant for the governments to provide reproductive health services not only from a human rights' perspective but also for their own future benefit in order to bring about economic prosperity and wellbeing for their citizens.

2.2 Sexual and Reproductive Health

As seen in Table 2., women in Kenya not only want, but in reality have, less children than their Ugandan counterparts. Women in Uganda desire on average 4.8 children compared to the 3.6 of Kenyan women. In addition, men in both countries have higher desired fertility and the gap between the desired family sizes of women and men is bigger in Uganda. However, fertility desires change interestingly when one considers the effect of education. Figures 5. indicates, for women, the mean years of education and the effect of education on fertility desires respectively. This not only relays the importance of the complexity of different populations' reproductive behaviour

within the countries, but also the important mediating factor education has, even when the mean years of education are relatively low.

Table 2: SRH Indicators in Uganda and Kenya

	Adolescent Pregnancy Rate (women, 15-49)	CPR (married women, 15-49)	Maternal Mortality Rate (per 100,000 live births)	Infant Mortality Rate (per 1,000 live births)	Average Desired Family Size		TFR
Uganda (2016)	118	39%	311	38	Women: 4.8		5.4
					Men: 5.5		
Kenya (2014)	87	58%	507	35	Women: 3.6		3.9
					Men: 4.0		

(Data from the DHS Program STATcompiler and UNICEF)

Figure 5: Education in Kenya and Uganda

Mean Number of Years of Education
■ Kenya (2014) ■ Uganda (2016)
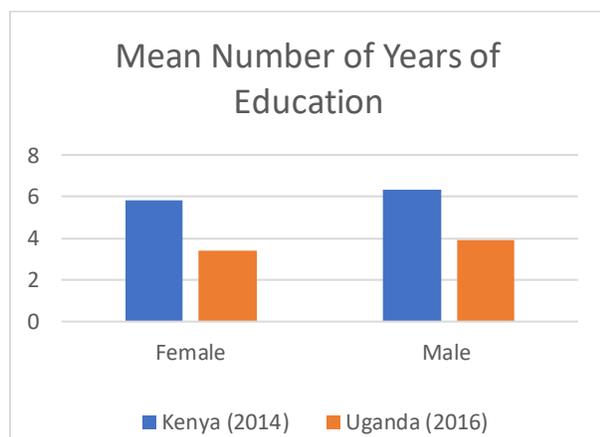
Figure 4: Desired Family Size in Uganda and Kenya

Women's Desired Family Size by Educational Level
■ Uganda (2016) ■ Kenya (2014)

(Data from the DHS Program STATcompiler)
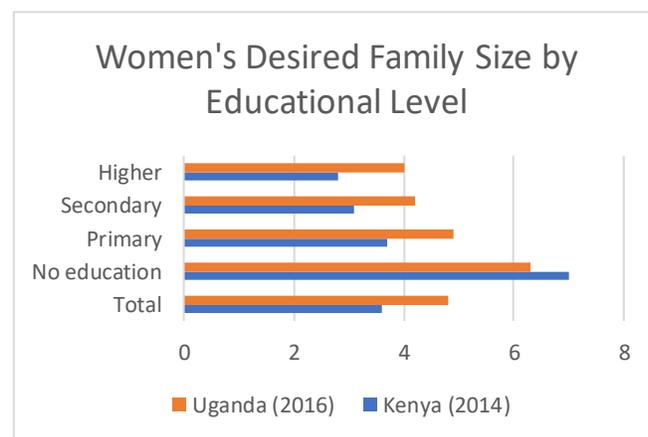
Additionally, it is important to note that TFRs align more closely with men's desires than women's in both countries, meaning that men most likely have significant sway in deciding how many children a couple will have. This is a consistent trend in the literature (Snow et al., 2013). There are also variations in fertility rates based on levels of wealth for different populations. As seen in Figure 7, those in richer quintiles have lower general fertility rates than poorer counterparts, which echoes the same findings for education: higher socioeconomic status (SES) changes fertility

desires. Additionally, Kenya reflects a bigger effect for education, with desired fertility dropping more rapidly once a primary school education is achieved.

Figure 6: Fertility Rates for Ugandan and Kenyan Women by Wealth Quintiles

General Fertility Rates Per 1,000 (Women 15-44)

Quintile	Kenya (2014)	Uganda (2016)
Lowest	222	246
Second	166	220
Middle	135	194
Fourth	114	173
Highest	105	138
Total	141	189
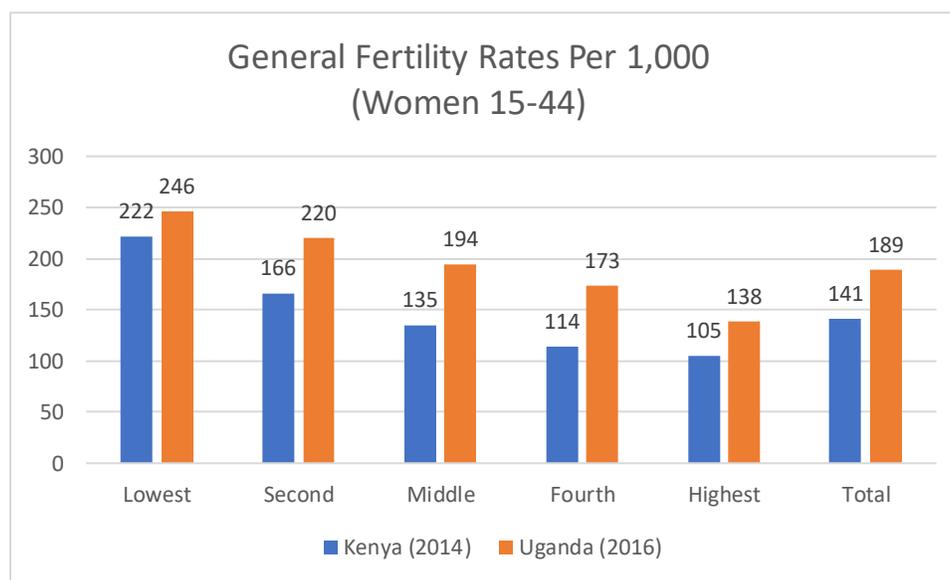
(Data from the DHS Program STATcompiler)

Table 2. also reflects that the rates of contraceptive use are nearly 20% higher in Kenya than Uganda, most likely as a result of the intensity of Kenya's family planning program compared to Uganda's. The success of these programs is confirmed when observing the current state of reproductive and sexual health in each nation. Health outcomes for women and children, for example, are generally better in Kenya. The adolescent pregnancy rate (which includes all women of reproductive age) is nearly 1.4 times higher in Uganda than in Kenya. Excluding older generations leads to only slightly better numbers – in 2015, approximately 33% of those aged 20-24 gave birth before age 18 in Uganda compared to 23% in Kenya, (UNICEF, 2015; UNICEF, 2017). Neonatal mortality is 1.3 times higher in Kenya and 1.6 times higher in Uganda for younger mothers than for those aged 20-29 (UNICEF, 2015; UNICEF, 2017) which means that these young pregnancies not only lead to increased risk for the adolescents themselves but also for the babies they are giving birth to.

2.3   Recent Family Planning Programs

As commitment-makers for FP2030, both Uganda and Kenya have pledged to increase access to voluntary, rights-based contraception for their citizens. Family Planning 2030 (FP2030) is global partnership of governments, NGOs, academic institutions, and other stakeholders that are

motivated to advancing voluntary, rights-based family planning (FP2030, 2023). In its first iteration (FP2020), the initiative ran from 2012 to 2020 and served as a source of support for over 90 commitment makers who pledged to contribute policy, programs, and finances in order to advance access to contraception. Both nations have been participants since 2012 and have made commitments for 2030, including increasing CPR, reducing unmet need, strengthening the provision of services, and expanding the allocation of resources (FP2030, 2023). At the time of the surveys, both countries already had comprehensive national family planning policies that outlined objectives and goals. These policies not only serve as a way to better understand the (proposed) policy interventions from each government, but they also highlight some of the main challenges and opportunities identified by each administration. Both National Family Planning Costed Implementation Plans (CIPs) introduced the issue of population growth and the needs of a youthful population as an incentive to promote family planning and encourage economic opportunity. Both also mention the UN's Development Goals and frame the uptake of FP services as a path to improving health outcomes for women, men, and children.

The Ugandan CIP for 2015-20 was completed in 2014 and set specific goals for the five-year span that included reducing unmet need for contraceptives and increasing CPR for in-union women (MOH, 2014). Among the barriers to success, the plan mentioned that many Ugandans still had misinformation about family planning and that they did not have accurate information about the side effects of contraceptive methods. Furthermore, cultural and religious beliefs also posed a barrier, as did personal or partner opposition to contraceptive use. Importantly, it also noted that about 43% of women who started using contraceptives discontinued within 12 months, many because they had health concerns (MOH, 2014).

Kenya's CIP for the period, created in 2011, identified a main goal of increasing CPR to 56% by 2015 by implementing programming across five thematic areas: human resources, commodities security, youth, demand creation, and integration and cross-cutting issues (MOPHS, 2012). The report mentioned the importance of capacity-building, including expanding staff training and the availability of services and products. It also noted that low involvement from men had been a traditional deterrent to uptake and that strategies should aim to better include them in the process. Additionally, it was proposed that media campaigns were expanded beyond general encouragement of FP to include information on specific methods in order to promote long-term and permanent contraceptive methods, for which use was low. Lastly, the plan discussed the importance of reaching youth and making programming available and accessible to the younger population.

These priorities reveal some of the levels of general FP development in the countries. Kenya's plan reveals more advanced concerns than that of Uganda, where levels of CPR are still much lower. As seen in Table 2., there are significant differences between the countries in regard to indicators of reproductive health and preferences. The only indicator where Uganda outperforms Kenya is on maternal mortality. It is important to take this setting into account when evaluating the ways in which family planning policy can be most effective and whether the sexual and reproductive health system is well situated to support individuals with their FP journeys.

3 Literature and Theory

This section will present an overview of the relevant literature and theory on family planning and contraceptive use in the developing world and specifically in the context of Eastern Africa. There will be a focus on gender relationships within couples as well as the ways in which their social environment may influence this relationship, ultimately influencing their ability to partake in family planning.

3.1 Previous Research

Conceptualising Empowerment

Women's position in society is important not only for their own wellbeing but also for those around them, especially their children and dependent family members (Yaya et al., 2018). In contexts where women have less independence and autonomy, they may have more difficulty exerting power in regards to their own sexual health, including accessing services, negotiating with partners, and making decisions around how, when, and with whom to have sex (Yaya et al., 2018). As a result, their use of family planning services are intimately tied to factors of gender equality within the household, and previous research has found that gender-based control within relationships is an indicator of reproductive and sexual health (Hameed et al., 2014; MacPherson et al., 2014). In most African societies, patriarchy is the dominant social structure and men are the ones with authority and access to various resources (Paek et al., 2008). A lack of access to and control of (household) resources may prevent women from reaching critical health services, leading to adverse health outcomes like maternal mortality and morbidity (MacPherson et al., 2014). In addition to influencing access to resources, gender norms and values can also influence the availability of specific health interventions like contraceptives and abortions (MacPherson et al., 2014) as these services may be deemed taboo. This may create more risk for women.

Beyond decreases in maternal mortality, studies have linked women's empowerment to reduced rates of unintended pregnancy, lower rates of STDs, and better health-seeking behaviours such as participation in nutritional health education sessions and use of nutritional supplements (Yaya et al., 2018). Schuler and Hashemi found that empowerment is positively associated with contraceptive use in a study of credit programs in rural Bangladesh (Schuler & Hashemi, 1994) and Crissman et al. found that sexually empowered Ghanian women had higher odds of using contraceptives (Crissman et al., 2012). Other studies found higher use of contraceptives among women with more decision-making power (Mahmood, 2002; Tadesse et al., 2013), women who

have money of their own (Corroon et al., 2014), and women who made their own health decisions (Alabi et al., 2019).

The variety of these studies point to an important fact: measuring empowerment is not easy. While some proxies like education or employment may offer insights, they do not truly measure empowerment (Hameed et al., 2014). Scholars have consequently spent some time devising frameworks of gender equality in an attempt to conceptualise a true measurement of women's autonomy. Empowerment is difficult to conceptualise not only because it is continuous process but also because it spans different spheres of women's lives. Many recognise Kabeer (2001) and, building on that, Malhotra et. al. (2002) to have supplied an encompassing framework.

Kabeer notes that empowerment exists only in relationship to disempowerment: it is the process by which those who have been denied the ability to choose acquire such an ability (Kabeer, 2001). She outlines three dimensions (agency, resources, and achievements) through which empowerment is carried out, noting their close interrelationship. Agency refers to the process of making and executing choices, especially in ways that challenge power dynamics; resources, which are distributed through social and institutional relationships, are the medium through which agency is executed; and, finally, achievements refer to the outcome of exercising agency and to how well individuals achieve their potential.

Malhotra et. al take this theory further (Malhotra, 2002). They additionally note the important distinction that women may be empowered in one aspect without affecting others. A single intervention cannot be assumed, therefore, to lead to empowerment across multiple dimensions simply because it addresses one aspect of women's lives. They find six main dimensions of empowerment: economic, socio-cultural, familial and interpersonal, legal, political, and psychological. These dimensions can be measured with various indicators at levels of the household, community, and society. Conceptualising women's empowerment therefore is a complex process since it occurs on both the societal level and the personal level as well as over time.

Community Expectations and Opposition to Family Planning

There are multiple ways to understand how environment can influence contraceptive uptake, but one especially relevant framework is Ansley Coale's Ready, Willing and Able (RWA) model. Adapted to various fields since its conceptualization in the 1970s (Lesthaeghe, 2014), this framework was originally implemented to explain the prerequisites for fertility transition. In this case, it is relevant to understanding FP uptake. Readiness refers to the fact that there must be an advantage to the new behaviour (contraceptive use, in this case) and that the benefits must outweigh the costs. In the case of willingness, individuals will evaluate how conducive their environment is to the new behaviour and how willing they are to circumvent tradition and risk moral objections. Finally, adopting new behaviour depends on abilities to access techniques and methods, and includes costs (Lesthaeghe, 2014).

It is useful to look at FP use in Uganda and Kenya through a RWA lens in order to determine where best to implement interventions. Educational programming may address readiness and even willingness, while ability is better addressed through healthcare policy and facility improvements. It has been established that the barriers to contraceptive use are often concentrated on the community and individual level in a setting where traditional norms and expectations persist (Skinner, 2021). There are also differences across socioeconomic and -demographic groups based on their community influences and their own abilities to circumvent expectations and resist any social pressures, in addition to their initial desire to resist pressures. Understanding this complicated environment is vital to creating a conducive environment for FP uptake and to evaluate the effects of interventions on different groups.

Gender roles and community expectations are intimately connected to beliefs about women and men's social roles, which can affect their tolerance of contraceptive use. In Kenya, a study found that men feared that access to contraception would give women more agency and independence from men, diminishing their own social role and leading to more promiscuity among female partners (Withers et al., 2015). In their own roles, men are often expected to have children as soon as possible after marriage, provide financially for their family, and make major decisions as the head of the household (Schuler et al., 2011). In some cultures, virility and status is signalled by fathering children and manhood may even be demonstrated by dominating women into unprotected sex (Schuler et al., 2011).

In contrast, when women are expected to remain ignorant of sexual relations, it can be difficult for them to negotiate the use of FP and they may be unable to exert autonomy on the subject (Paek et al., 2008). In addition, with strong social pressure, women may believe that their worth is tied to the number of children they can have, and therefore they may oppose FP if it prohibits them from fulfilling their "purpose." In some cases, fertility is one of few tools that a woman may use to impart some control over a marital situation that is, for the most part, beyond her own control (Hutchinson et al., 2021). In many societies, women are expected to fulfil an obligation and supply her husband with a large amount of children, especially if he paid a bride price for her (Bawah et al., 1999). If a man "paid" for a woman, he may also be able to dictate decisions to her and she will have little power to disagree, which also influences negotiating power within the relationship (Wolff et al., 2000). Women may also feel pressure to have children to prevent their husbands from taking on additional wives in a polygynous culture or to stabilise their own status within a such a marriage and ensure access to resources, both before and after their husband's death (Hutchinson et al., 2021).

Women and men are therefore delegated to different social roles, especially within the household. In Tanzania, one study found a conflict between the gender domains: women believed that because the birthing of children was their domain they should decide on the use of FP while men believed that as the primary household decision-makers they should have the final say in the use of FP (Sundararajan et al., 2019). Some interviewees suggested that the solution would be a joint decision between the partners but conceded that men would ultimately have the final say on the topic. Such conflicts disrupt the normal order of things and point to an example of the ways FP interventions may be thwarted by local customs and expectations for gender groups. Wolff et al.

conceptualise such marital negotiations regarding fertility outcomes through a framework with four main stages: cultural norms and expectations that ascribe authority on fertility decisions to men or women, communication, disagreement, and conflict resolution (Wolff et al., 2000). In Uganda, the authors find that many much of the "disagreement" occurs indirectly and is based on assumptions or indirect communication such as suggestive remarks, information from third parties, or overheard conversations (Wolff et al., 2000). In such settings it is not only easier for miscommunication to occur, but also for partners to wilfully misinterpret or indirectly dominate decisions.

Thus, while there may be different beliefs around reproduction and contraceptive use within individual communities, it remains evident that the reception of FP messaging is very dependent on social norms and taboos. Expected disapproval from family and friends can exceed in value personal opinions on family planning and many may avoid FP services out of fear of social stigma (Dynes et al., 2012). As a result, the source and delivery method of FP information is very important in predicting the general acceptance from both sexes. In northern Ghana, a study found that men who were encouraged to use FP services by at least one person in their social network were more likely to approve of FP and even discuss it with their wives (Okigbo et al., 2015). Research in Malawi has confirmed the importance of social behaviour and the contraceptive practices of others in the social network when determining own contraceptive use (Paz Soldan, 2004). They also found a strong gender differential in how FP information spread – men formed conclusions about other men's opinions and practices based on observations of their behaviour (family size, spacing etc.), while women rarely assumed knowledge of their peers' attitudes unless they had directly discussed the topic. In addition, personal discussion of FP and contraceptive use occurred generally in same-sex groups and respondents claimed to feel most comfortable talking to those in their same age group, stating that it would be inappropriate to discuss such topics with elders or younger people who have not yet had children.

Older generations are often noted as barriers to participation in FP. In a Ugandan study, participants reported that parents expected them to remain virgins until marriage and would scare them with stories of the dangers of contraceptives in an attempt to discourage pre-marital sex (Kabagenyi et al., 2014). Many of the adult interviewees still reported fears of and misconceptions around contraceptives. A study focused on the East African region found that traditional norms prohibit open discussion of sexual health and contraception among parents and children and that in some cases, parents themselves are not equipped to discuss the matter even if they wanted to (Kamangu et al., 2017). Often, parents also have expectations for marital fertility. Across countries, women claim that their use of contraceptives causes conflict especially with their in-laws and that their husbands' families can pose barriers to FP participation (Bawah et al., 1999; Kadir et al., 2003; Nalwadda et al., 2010; Stephenson & Hennink, 2004). In some societies where lineage is important, there is even a belief that the ancestors may disapprove or withhold their blessing if a woman does not reproduce as is her duty (Bawah et al., 1999).

There are also internal barriers in the RWA model. The desired family size of both women and men is important in relation to contraceptive use. Individuals must see the benefits to limiting

fertility before willingness and ability is even considered. Parity, for example, has been identified as an important determinant of contraceptive use as women with higher parity are more likely to use contraceptives than those with no or few children (Palamuleni, 2013; Samandari et al., 2010) and desire to stop childbearing rises rapidly with parity (Wolff et al., 2000). This may be because in various cultures, a woman is expected to produce children as soon as possible once she is married to prove her worth and dispel fears of infertility. Women who have already had one or more children may therefore more effectively advocate for contraceptive use, especially in an attempt to space births (Bawah et al., 1999). There are also incentives for women to desire a higher parity. In some contexts, high parity serves to ensure marital stability and women may use it as a way to ensure financial support and protection from their spouse (Hutchinson et al., 2021).

Thus, desired family size plays an important role, but it is responsive to external factors. In Uganda, young people of all genders reported positive attitudes towards smaller family sizes, especially in the face of economic pressures (Nalwadda et al., 2010). Another Ugandan study found that both women and men cited economic incentives for limiting family sizes, and that schooling costs were an important consideration when planning fertility (Wolff et al., 2000). In a Malawian study, men stated not only that they could better provide for a smaller family, but also that their wife and children would be healthier if contraception was used to space or limit births (Paz Soldan, 2004).

Education and Norm-Changing Programs

Often, education serves as a tool for changing norms and expectations and can create an atmosphere of readiness. Education is a powerful predictor of contraceptive use in relation to specific knowledge and motivations around childbirth, in addition to serving as a proxy for dimensions of empowerment which relates to willingness. Studies have found that increased levels of education leads to lower unmet need for contraceptives (Al Riyami et al., 2004), greater likelihood of using contraceptives (Shapiro & Tambashe, 1994), more restricted childbearing (Moursund & Kravdal, 2003), lower fertility rates (Bbaale & Mpuga, 2011), and postponements of first births (Monstad et al., 2008). Better educated women generally also have smaller desired family sizes, indicating shifts in their attitudes towards childbearing and the perceived costs of childrearing (e.g. the opportunity cost for employment)- (Castro Martín, 1995).

In an Indian study, Moursund and Kravdal also found that it is not only individual levels of education that influences fertility preferences but the general levels of education of other women in the community (Moursund & Kravdal, 2003). As for couples, husbands' and wives' education are often positively correlated, but a woman's education is expected to have a bigger effect on FP than her husband's (Castro Martín, 1995). Evidence from Uganda indicate that education increases both women and men's sense of entitlement over decisions regarding family size, and additionally that women find men with more education to be more open to discussing the topic of family planning (Wolff et al., 2000). When making fertility decisions, levels of education for women and men often reinforce rather than substitute for the other and in some cases, men may have more influence over contraceptives so their education may be especially important (Moursund & Kravdal, 2003). Before deciding to use contraceptives, it is important for individuals to believe

that they have control over their own fertility (i.e., readiness) and thus education can be important in placing fertility decisions in the control of the individual.

Education also changes the way that individuals interact with various systems, including health systems. The health-education gradient has been long-established and theory on the relationships is plentiful. Education may lead to better health through superior job opportunities and income (Arendt, 2005; Cutler & Lleras-Muney, 2006; Kawachi et al., 2010), leading to a cumulative process of better health and higher socioeconomic status throughout the life course. Through this process, individuals may be less likely to experience circumstances that lead to poor health (e.g., lack of resources, dangerous job environments) and they will be able to afford treatment if they do have a medical need. Additional theories posit that education may lead to the development of new decision-making and reasoning patterns that result in better health choices (Cutler & Lleras-Muney, 2006). Individuals in school may be exposed to better knowledge of lifestyle practices and behaviours that improve health outcomes and those who are literate, for example, are more susceptible to health campaigns and programming. Educated women in low-income countries have been found to have more positive attitudes toward medical care and more knowledgeable response to disease (Shapiro & Tambashe, 1994).

More educated women may therefore better understand how contraceptive use leads to better health outcomes and they may more effectively avoid negative side effects through communication with their provider, leading to more consistent, long-term use (Mekonnen & Worku, 2011). In a study of community norms and contraceptive use in rural Malawi, some interviewees stated that other women in the community would come to their homes for assistance in reading the date of their next scheduled contraceptive injection (Paz Soldan, 2004). In the study, one interviewee stated, "Some who didn't go to school come to me to assist them in checking the next date [when they are scheduled] to go to the hospital. When I check, I tell them the day they are supposed to go" (281). Clearly, literacy is an important factor in determining sustained contact with health providers and in ensuring efficacy of some short- or mid-term methods that require follow-up action.

Additionally, beyond understanding how to use contraceptives, education changes norms. Delaying first birth has been linked to increased socioeconomic status for women (Starbird et al., 2016) and it is reasonable to believe that education and contraceptive use will be positively associated – women who are more educated are not only more likely to see the benefits of using contraceptives, they are also more likely to be incentivized to use it. Additionally to cognitive development, educated individuals partake in important socialisation and their gained knowledge plays an important role in shaping values, opinions, and attitudes, allowing them to questions traditional expectations and norms (Castro Martín, 1995; Larsson & Stanfors, 2014). Education also influences women's attitude towards childbearing and family size preferences (Shapiro & Tambashe, 1994), especially if it leads to more employment options. Education can have important effects for women's economic autonomy and for expanding their personal identities beyond that of their domestic roles. Women who are more educated experience a higher opportunity cost when having children and it may therefore lead to norm changes when it comes deciding when and how

to often to have children. For example, interviewees in a Tanzanian study noted that contraceptives could help a woman space births so that she may fulfil her household duties while also remaining economically active (Sundararajan et al., 2019). Additionally, women who have been socialised in the educational setting may feel more empowered in their relationships and therefore better able to advocate for their own needs and wants (Larsson & Stanfors, 2014).

Interrelationship Equality and Communication

Interrelationship dynamics depend on both the empowerment of women and community expectations. An unequal power distribution on the community level may lead to poor communication patterns within partnerships, which has been linked to lower odds of using a family planning method (Dynes et al., 2012). In Uganda, a study found that women had higher levels of contraceptive use when they lived in neighbourhoods where women around them had more autonomy in household decision-making (DeRose & Ezeh, 2010). Inequitable gender norms lead to lower likelihood of joint decision-making and discussion around reproductive health, which is associated with lower FP use (Hardee et al., 2017).

It has been established that joint decisions specifically are beneficial for various outcomes related to women's wellbeing. In comparison to joint-decisions, both wife- and husband-dominated decisions have been related to poorer female health and development, higher risk of domestic violence for women, and less involvement of men during periods pregnancy (DeRose & Ezeh, 2010). Therefore, although women's autonomy and self-determination are important, the role of husbands remains important especially when their active involvement is needed for a health intervention (e.g., the use of couple contraceptive methods). However, it may also be important to consider the cultural context and evaluate whether male involvement in decisions would be a bigger hinderance or supporting factor for positive outcomes (DeRose & Ezeh, 2010). In general, however, better couple trust and cooperation would allow for better discussion of wants and desires from both parties, improving the odds of contraceptive use.

However, it may be difficult for both sexes to broach the topic in the face of suspicion of infidelity or extramarital fertility and the associated social costs may be too high for both sexes (Wolff et al., 2000). One study found that a wife's perception of her husband's approval of family planning was significantly tied to her own use of contraceptives (Lasee & Becker, 1997). In such a context, communication is especially important to ensure that both parties clearly relay expectations and desires around the reproduction, especially since multiple studies have confirmed that the quality of husband-wife communication affect contraceptive use (Biddlecom & Fapohunda, 1998; Irani et al., 2014; Mahmood, 2002; Mekonnen & Worku, 2011; Tilahun et al., 2014). Women who feel that they have more agency may be better able to broach these topics than peers without autonomy.

When couples have divergent views on family planning, women may partake in covert contraceptive use. Three main causes of covert use have been identified as: husbands' disapproval of use, husbands' pronatalism, and the difficulties associated with discussing contraceptives (Biddlecom & Fapohunda, 1998). If communicating about contraceptives is difficult (especially in a context where the norm is to not use them) or wives anticipate a negative reaction from their

husband, they may elect not to openly discuss the topic but instead make use of methods they can hide from their partners such as the pill, implants, or injections (Biddlecom, 1998). A study in Uganda found that women without formal schooling were more likely to be covert contraceptive users than educated peers, confirming the association between education and negotiating power within the marriage (Heck et al., 2018). Interviewees in a Ugandan study reported husbands' strong disapproval of contraceptives and women claimed that raising the subject was unacceptable and would lead to conflict not only between partners but also with the woman's in-laws (Nalwadda et al., 2010). A Tanzanian study found that broaching the topic of condom use with a male partner can result in violence against women (Schuler et al., 2011). In the same study, participants also claimed that women who were caught using contraceptives without their husband's knowledge could be scolded, beat, or divorced. Interviewees in Malawi claimed that many women practiced concealed use and that they feared their husbands could divorce them if they discovered the truth (Paz Soldan, 2004). In Ghana, women echoed these concerns and added that a husband may favour another partner or wife over them if he found out they were contraceptive users (Bawah et al., 1999).

Interrelationship dynamics also relate to interpersonal violence within relationships. Tolerance of domestic violence is highly correlated with actual experience of domestic violence and women who experience domestic violence have been found to have lower contraceptive use rates (Olorunsaiye et al., 2017). These women also report higher rates of unintended pregnancy, mostly as a result of their decreased ability to realise fertility desires and make use of contraceptives (Stephenson et al., 2008). In SSA, societal-level acceptance of domestic violence has been tied to more traditional and male-dominated cultural aspects, although women in this region are generally more accepting of domestic violence than men (Olorunsaiye et al., 2017). Women who do tolerate domestic violence also have been found to have higher desired and realised fertility (Snow et al., 2013). In Tanzania, Nanda et al. measured opinions on wife-beating in addition to other indicators of gender equity and found that women with more egalitarian views were more likely to be using a method of contraception (Nanda et al., 2013). This finding was confirmed in a study of seven Central and West African nations where women with a higher tolerance of domestivc violence had lower odds of contraceptive use (Olorunsaiye et al., 2017). Another study in Ghana found women who accepted a greater number of justifications for wife beating had lower odds of using contraceptives (Blackstone, 2017). For men, the justification of violence has similar effects. In East Africa, research has found a connection between male-dominat attitudes and higher fertility aspirations among men (Snow et al., 2013). They also found that tolerance of wife-beating was a stronger indicator of high fertility preferences than other indicators of gender equality (such as decision-making authority), but noted that there were some cross-country differences in the effect.

Family Planning Programs and Health Behaviour

The attitudes of men are important therefore not only because it influences their own actions as contraceptors but also because it influences the behaviour of the women around them. Family planning programs are an essential norm-changing tool that it is most effective when addressing both women and men. There are various approaches to growing the FP environment. One Kenyan study found that media exposure was important to encourage contraceptive use not only for

limiting fertility but also for spacing births (Westoff & Rodriguez, 1995). It is also relevant that desired family size declined for women who received media intervention by nearly one child (Westoff & Rodriguez, 1995). In Uganda, family planning media has been associated with favourable attitudes towards contraceptive use and those who received FP messaging were twice as likely to use modern contraceptives in the near future as those who received no messaging (Gupta et al., 2003).

Some studies have also focused on the education of male partners in determining attitudes towards family planning. Given that men's preferences are important in predicting couples' use of family planning (Biddlecom & Fapohunda, 1998; Tuloro et al., 2006), scholars increasingly argue for their inclusion in family planning policy. Such inclusion leads to better reproductive health outcomes (Hardee et al., 2017; Shattuck et al., 2011). Men may be reluctant to use – or let their partners use – contraceptives due to cultural norms, superstitions, misperceptions, and personal values. However, in many contexts their approval is vital in predicting the contraceptive use of their partners (Mekonnen & Worku, 2011). Dodoo has found that the desires of men are not only important in predicting the use of contraceptives among married individuals, but also that if men want more children, their preferences often supersede the desires of a wife who does not want more children (Dodoo, 1998). When men and boys have been exposed to gender equality programming, they are more likely to report increased contraceptive use (Hardee et al., 2017) and adoption rates for women are higher when men are also involved in programming (Ochako, 2017). Targeting men with norm-changing programs and educational campaigns can therefore be an effective method to changing reproductive behaviour. Although research has shown men's interest and positive response to family planning, they are still underserved in most contexts by programs where women are prioritised and their partners are considered auxiliary (Hardee et al., 2017). Some successful programs aimed at men were conducted through media campaigns (Gupta et al., 2003), by involving religious leaders (Okigbo et al., 2015), and by implementing direct educational programming (Shattuck et al., 2011). Such programs aim to influence preconceived notions as well as community norms by delivering information from a socially acceptable source (e.g., male peers) and they encourage norm changes across various behaviours. Importantly, they aim to address a widespread lack of knowledge around contraceptives.

A study in Tanzania found that men who were against contraceptive use had misconceptions about the side effects and feared it would harm their wives (Schuler et al., 2011). A study in Uganda found that both women and men feared that contraceptives would harm their bodies and prohibit future reproductive capabilities, or even infect them with HIV (Nalwadda et al., 2010) while another Ugandan study confirmed that men (and women) were misinformed about the side-effects of contraception, and also found ties to men's resistance to contraceptive use and gender norms and expectations (Kabagenyi et al., 2014). In the study, some male interviewees cited that contraception was women's business, while others claimed they would like to be involved but they did not feel that family planning was aimed at them, and they were dissatisfied with the methods (condoms or vasectomies) that were available to them. In a Tanzanian study, men complained about their lack of knowledge on the benefits of FP use and argued for their own inclusion so that they were better equipped to make household decisions (Sundararajan et al., 2019). Therefore, in

practice many men might want to be more involved in FP but they simply are not offered accessible avenues to do so.

3.2   Research Approach

Based on the previous literature, there are some expectations that arise for the results of this study. I aim to understand the contributing factors to contraceptive use as well as possible barriers. Based on previous theory, I conceptualise FP uptake as a result of both external and internal factors, many of which are outside the individual's control. To do this, I look at four main groups of predictors: factors of gender ideology, exposure to FP programming related to SBCs, socioeconomic factors, and sociodemographic factors (Figure 7.). Furthermore, I am interested in couples' fertility and therefore measure factors that are relevant on the relationship level. This is especially important for the ideology factors where I am interested in understanding how both genders' perceptions of gender identity and equality affect their use of contraceptives.

Figure 7: Factors Influencing Contraceptive Use in Uganda and Kenya
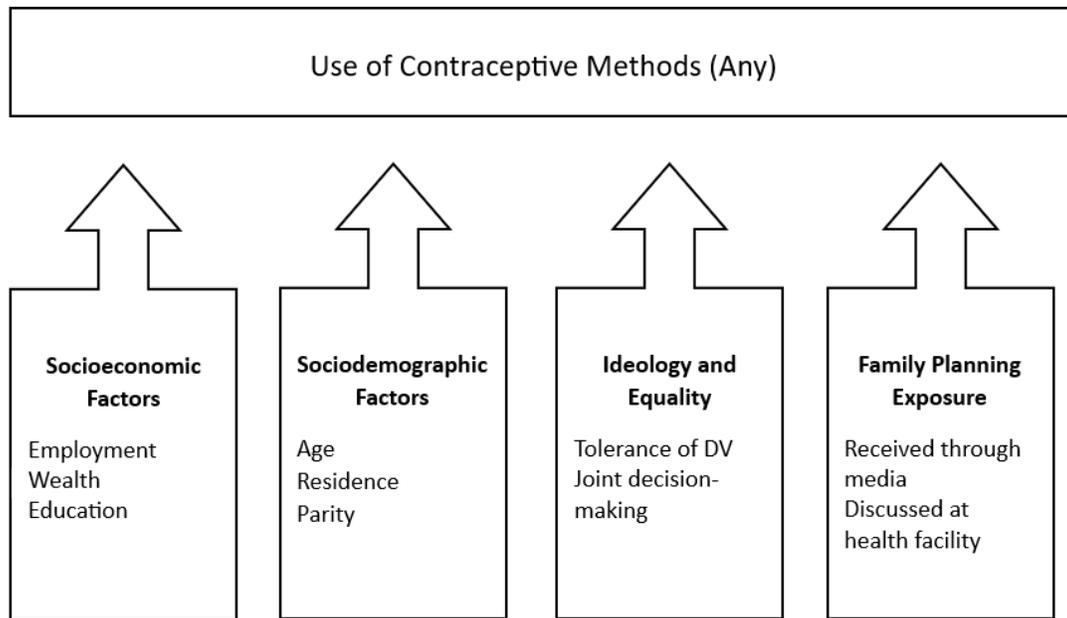
(Adapted from Ochako et al. (2017) to apply to this study)

3.2.1 Research Questions

This paper aims to answer the following questions:

1. What are the major contributors to contraceptive uptake among women and men in a Uganda and Kenya?
    a. Are women and men's uptake of FP affected equally by indicators of FP programming and gender ideology?
    b. What are the main drivers of differences in contraceptive uptake in Kenya and Uganda?

3.2.2 Hypotheses

Based on the country contexts, previous literature, and demographic theory, I expect certain outcomes from this study. These hypotheses are as follows:

1. Joint decision-making within partnerships would lead to higher contraceptive use for both women and men.
2. Indicators of women's autonomy and equality would relate to higher contraceptive use for both women and men.
3. Environment and social expectations will have a negative effect on both women and men's contraceptive behaviour.
4. Indicators of higher socio-economic status would be indicative of higher contraceptive use for women and men.
5. Exposure to FP-messaging would have an equally positive effect for women and men.

4   Data and Methodology

This section provides an overview of the data source used and variables included in this study. It explains how and why variables were selected and the manner in which they were coded within the statistical model in order to run successful regressions. I also present my statistical models.

4.1   The Demographic Health Survey

The DHS is a comprehensive survey that has been conducted in over 90 countries and provides vital information on topics such as family planning, child mortality, nutrition, and sustainable development goals (ICF, 2023). The purpose of the DHS Program is to improve 1) information and data availability; 2) national and international coordination and partnerships around data collection; 3) institutional capacity of data collection in the host country; 4) methodologies and data collection/analysis tools; and 5) the dissemination and utilisation of data (ICF, 2018). The three main surveys conducted by the program include the Malaria Indicator Survey (MIS), the Service Provision Assessment (SPA) Survey, and the Demographic Health Survey (DHS). For this study, data from the seventh phase of the DHS questionnaire was used.

4.2   The Sample

Most DHS surveys include three main questionnaires: household, male, and female. For this study, I used data from both the female and male questionnaires for Uganda (2016), and Kenya (2014). At the individual level, the surveys are generally conducted for women of reproductive ages (between the ages of 15 and 45), and for men they are conducted for ages 15-54 or 15-59. For this study, only women and men aged 45 and younger were included.

To establish the sample with so-called "true need," I used information from two questions. Firstly, I established whether the couple was currently pregnant. The DHS asks both women and men if they are/their partner is currently pregnant and respondents may answer "yes," "no," or "don't know." Those who were pregnant were determined to have no need. Next, I referred to the DHS's

question about future desired children. Any respondents who wanted children within a year were determined to not have need. The DHS assumes that women who want children within the next two years may not have a need for contraceptives while other studies have used smaller thresholds like three months (Crissman et al., 2012). I determined that those who wanted children within the next year may be without need, assuming that this would give the most accurate estimate of those who have a real need for contraception while maintaining a sizable sample. Thus, my sample includes women and men aged 15-45 who are not currently pregnant and who do not want to have a child within the next year.

4.3   Variables

4.3.1   Dependent Variable

Both the male and female DHS questionnaires ask participants about contraceptive use. I referred to the question "Are you or your partner currently doing something or using any method to delay or avoid getting pregnant?" to construct the dependent variable. "No method" was coded 0 while any traditional or modern method was coded 1. This is a standard method to measure contraceptive use for researchers working with the DHS dataset. I did not differentiate between modern and traditional methods of contraception based on the fact that the questionnaires for each country included different contraceptive options (see Table 3.) and to ensure that the findings are more generalizable. The vast majority of contraceptive users in all groups make use of modern methods.

Table 3: Contraceptive Methods by Type and Prevalence

Method	Ugandan Women	Ugandan Men	Kenyan Women	Kenyan Men
Not Using	**59.57%**	**51.72%**	**56.74%**	**40.95%**
Pill	2.16%	2.80%	6.3%	10.34%
IUD	1.26%	1.81%	1.79%	2.44%
Injections	20.49%	16.44%	19.71%	25.66%
Male Condom	5.17%	12.20%	4.54	7.17%
Female Condom	-	-	0.02%	0.06%
Female Sterilisation	-	1.63%	-	1.64%
Implants/Norplant	6.49%	6.41%	6.98%	6.91%
Emergency Contraception	0.10%	0.05%	-	-
Other Modern Method	-	0.05%	0.07%	0.11%
Total Modern	**35.67%**	**41.39%**	**39.41%**	**54.33%**

Periodic Abstinence	1.58%	2.39%	3.13%	3.61%
Withdrawal	2.39%	3.34%	0.57%	0.84%
Lactoral Amenorrhea	0.23%	0.63%	-	0.06%
Standard Days Method	0.44%	0.54%	-	-
Other Traditional Method	0.13%	-	0.14%	0.21%
Total Traditional	**4.77%**	**6.90%**	**3.84%**	**4.72%**

4.3.2   Independent Variables

SBC Variables

For the variable measuring FP discussion, the base sample is respondents who visited a health facility in the last 12 months. Those respondents are then asked if they discussed family planning with a health worker during the visit and the responses are labelled "yes" (1) or "no" (0). An additional question of interest would have been whether the respondent was visited by a field health worker who discussed FP, but this question was not included in all four questionnaires and therefore the variable was not included.

The variable measuring FP exposure through media is based on three questions about receiving family planning information through media. The DHS asks respondents if they received FP messaging through the radio, on television, or in a newspaper/magazine in the last few months. The Ugandan survey additionally includes a question about receiving FP through text messages on a mobile phone, but since the Kenyan survey does not include this question, it has been excluded from the variable. If respondents answered "no" to all three questions they were coded 0 and if they responded "yes" to any of the questions they were coded 1.

Ideology and Equality Variables

The justification of wife beating is included as an indicator of women's empowerment in the DHS's own evaluations. My variable is based on five questions that ask if a husband is justified in hitting a wife if 1) she goes out without telling him; 2) she neglects the children; 3) she argues with him; 4) she refuses to have sex with him; or 5) she burns the food. If a respondent answered "no" to all five questions they were coded 0, if they answered "yes" to any of the questions, they were coded 1. Other studies that look at gender equality and use this data set make use of this method (Nanda et al., 2013).

The DHS also includes decision-making in its evaluations of women's empowerment, another commonly used indicator of women's autonomy on the household level (ICF, 2018). This composite variable is comprised of answers to three questions about decision-making within the household. The DHS asks both women and men who should have the final say on 1) spending

respondent's earnings; 2) the respondent's healthcare; and 3) making household purchases. While there are additional questions in this series for women, for the male sample they were not asked and therefore I excluded them from my variable. Given that my hypothesis centres on joint decision-making, I focused on the response "respondent and partner" and created a variable compiling the number of decisions made together, coded 0-3.

Socioeconomic Variables

The DHS creates a wealth index that serves a composite measure of the household's living standard. Included in the index is household ownership of assets, materials used to construct the dwelling, and types of water access and sanitation facilities (ICF, 2018). In some datasets, the quintiles are labelled Lowest, Lower, Middle, High, and Higher while in others they are Poorest, Poorer, Middle, Rich, and Richest. For consistency, I applied the latter labelling to all countries.

The DHS codes education in various variables. I referred to the question "Highest education level attended" because it is a standardised categorical variable that relies on the country's own educational scheme (ICF, 2018).

The variable for employment is derived from the DHS question determining whether the respondent is currently working. Although there are more detailed questions about seasonality of work and of type, for my purposes I am only interested in employment status in general. I therefore refer to the questions: "Are you currently working" and then use the variable that is coded no (0) or yes (1).

Sociodemographic Variables

The DHS survey enquires about respondents' date of birth and then calculates respondents' age based on the date the interview was conducted (ICF, 2018). Using that information, a variable is created that groups responded respondents in five-year intervals (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49).

The DHS creates a composite of total children ever born by combining variables for the amount of sons and daughters are living at home, the amount that are living away from home, and the amount that have died. I further categorised this variable into four groups – those without any children (0), those who have one to two children (1), those that have had three to four children (2), and those who have five or more (3).

The division between urban and rural is based on the sample cluster where the interview was conducted, classified as urban or rural by the DHS. According to the DHS Recode, urban areas are large cities (populations over 1 million), small cities (populations over 50,000) and towns (other urban areas) (ICF, 2018). Rural areas are countryside. This variable is coded as urban (1) and rural (2) by the DHS.

Control Variable

I control for region to ensure that the results are not skewed by regional differences (e.g., levels of development, access to resources, or regional policies). The DHS designates each respondent to a country-specific region – for Uganda, these are the 15 sub-regions while in Kenya this variable corresponds to one of 8 provinces.

4.4 The Statistical Models

Data analysis was carried out using STATA v.17. I ran a multivariate model to determine the relationships between my dependent variable (being a contraceptive user) and my independent variables. In this regression, I included sociodemographic and -economic factors in addition to main variables of interest which related to women's autonomy, interrelationship coordination, and FP exposure. Implementing a logistical regression, I used odds ratios in order to see the strength and direction of the relationship between my dependent and independent variables. Each coefficient can therefore be compared to the base category (1) to compare the likelihood of being a user – if the coefficient is above 1, the comparison group is more likely than the base group to be users. If the coefficient is below 1, they are less likely. This does limit the possibility of cross-group comparison as each group can only be compared to its own base. However, given that I am studying the effect of specific influences on contraceptive use, it is a fitting method as it shows how specific individual qualities can influence contraceptive uptake and what interventions could have a positive influence.

In total, eight models were fitted. The first four (one for each country by sex) included indicators of gender equality and autonomy. The next four included indicators of SBC FP programming. Both rounds included the sociodemographic and -economic indicators. Models 1-4 measure the effect of joint decision-making and opinions on wife beating on the use of contraception for each group. Models 5-6 include most of the same independent variables but investigate the effect of FP programming, measured here through media messaging and contact with a health worker who discussed FP. The equations for the two sets of models are shown below.

Models 1 – 4

$$\Pr(X|Y) = \beta_0 + \beta_1 wifebeating\_justified_i + \beta_2 joint\_decisions_i + \beta_3 employed_i + \beta_4 edlevel_i + \beta_5 wealth_i + \beta_6 age_i + \beta_3 parity_i + \beta_4 residence_i + \beta_5 region_i + \mu_i$$

Models 5 – 8

$$\Pr(X|Y) = \beta_0 + \beta_1 FP\_media_i + \beta_2 FP\_discussed_i + \beta_3 employed_i + \beta_4 edlevel_i + \beta_5 wealth_i + \beta_6 age_i + \beta_3 parity_i + \beta_4 residence_i + \beta_5 region_i + \mu_i$$

5   Empirical Analysis

In this section, I introduce the findings of my statistical models. I outline the results, including descriptive statistics and the significance of my variables, and briefly summarise the major conclusions from each model.

5.1   Descriptive Results

Table 4. displays the summary statistics of each sample population. Because all individuals did not answer each of the survey questions, I have included the total sample for each question in additional to general distributions. The sample of Ugandan men was the smallest at 2,214, about half of the number of respondents included in each of the other samples.

Table 4: Descriptive Statistics for Each Sample

	Uganda				Kenya			
	Women		**Men**		**Women**		**Men**	
	Percentage (%)	N	Percentage (%)	N	Percentage (%)	N	Percentage (%)	N
User								
No	59.57	3,122	51.72	1,145	56.74	2,375	40.95	2,146
Yes	40.43	2,119	48.28	1,069	43.26	1,811	59.05	3,095
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**
Age								
15-19	35.55	1,863	0.72	16	32.39	1,356	0.25	13
20-24	29.15	1,528	10.66	236	27.71	1,160	5.48	287
25-29	19.35	1,014	18.65	413	23.12	968	17.71	928
30-34	11.18	586	23.31	516	10.22	428	22.06	1,156
35-39	3.82	200	16.12	357	4.95	207	21.37	1,120
40-44	0.74	39	17.8	394	1.41	59	18.7	980
45-49	0.21	11	12.74	282	0.19	8	14.44	757
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**
Education								
None	4.05	212	5.42	120	6	269	7.54	395
Primary	54.3	2,846	57.18	1,266	42.45	1,777	51.97	2,724

Secondary	30.89	1,619	23.94	530	38.58	1,615	27.32	1,432
Higher	10.76	564	13.46	298	12.54	525	13.17	690
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Justified wife-beating

No	2.21	116	64.86	1,436	55.64	2,329	63.33	3,319
Yes	97.79	5,125	35.14	778	44.36	1,857	36.67	1,922
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Joint decisions

0	69.3	3,632	42.64	994	69.33	2,902	35.37	1,854
1	10.99	576	21.23	470	12.21	511	18.49	969
2	11.94	626	17.71	392	13.19	552	19.92	1,044
3	7.77	407	18.43	408	5.28	221	26.22	1,374
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Employed

No	30.91	1,620	1.81	40	51.07	2,133	2.6	136
Yes	69.09	3,621	98.19	2,174	48.93	2,044	97.4	5,104
Total	**100**	**5,241**	**100**	**2,456**	**100**	**4,177**	**100**	**5,240**

Discussed family planning with health worker in last few months

No	64.32	2,228	81.03	1,794	76.07	1,958	83.39	4,360
Yes	35.68	1,236	18.97	420	23.93	616	16.61	869
Total	**100**	**3,464**	**100**	**2,214**	**100**	**2,574**	**100**	**5,231**

Family planning received through media source

No	29.29	1,535	21.59	478	21.17	886	13.23	693
Yes	70.71	3,706	78.41	1,736	78.83	3,300	86.77	4,547
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,249**

Parity

0	40.05	2,099	3.03	67	42.28	1,770	3.05	160
1-2	32.68	1,713	23.85	528	39.68	1,661	35.58	1,865
3-4	18.55	972	25.07	555	13.4	561	33.39	1,750
5+	8.72	457	48.06	1,064	4.63	194	27.97	1,466
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Residence

Urban	20.87	1,498	20.87	462	41.66	1,744	41.12	2,155
Rural	79.13	3,743	79.13	1,752	58.34	2,442	58.88	3,086
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Wealth Index								
Poorest	17.21	902	22.22	492	15.98	669	19.9	1,043
Poorer	17.94	940	20.23	448	18.61	779	19.19	1,006
Middle	17.61	923	19.38	429	19.52	817	19.48	1,021
Richer	19.33	1,013	19.56	433	21.36	894	22.02	1,154
Richest	27.91	1,463	18.61	412	24.53	1,027	19.4	1,017
Total	**100**	**5,241**	**100**	**2,214**	**100**	**4,186**	**100**	**5,241**

Firstly, contraceptive use was higher among men than women. For the sample with true need, 48.28% of Ugandan men compared to 40.43% of women were users. In Kenya, 59.05% of men and 43.26% of women reported contraceptive use. Rates in Kenya were higher for both sexes.

Few female respondents were above age 40 (0.95% in Uganda and 1.6% in Kenya) while few male respondents were below age 20 (0.72% in Uganda and 0.25% in Kenya). Most of the population had a primary school education, with Kenyan samples including the biggest population with no education at 6% (women) and 7.54% (men). Overall rates of education were higher for women in both countries with more men having no education than women. Employment rates for men are near-universal (98.18% for Ugandans and 97.4% for Kenyans) while women are less likely to be employed. In Uganda, 69.09% of women were working while only 48.93% of women in Kenya could say the same.

Parity was also distributed according to gender. For female respondents, most had 0-2 children while men were more likely to respond that they had higher parity. In Uganda, 48.06% of men had five or more children. More respondents lived in rural areas than urban areas. 79% of Ugandan and 58% of Kenyan respondents were rural. Respondents were distributed rather equally across wealth quintiles, although women were slightly more likely to be in the Richest group.

Women in Uganda were very accepting of wife-beating, with 97.79% justifying it under at least once circumstance. The majority of Kenyan women (55.64%), on the other hand, stated that it was not justified for any of the reasons presented. For men in both countries, about one in three stated it was justified. As for joint decision-making, many women made no decisions jointly (69.3% in both countries) and very few made all three decisions jointly. Men were more likely to report that decisions were made jointly (57.36% in Uganda, 64.63% in Kenya).

Rates of discussing FP at a health provider visit were not high. Women had higher rates (35.68% in Uganda, 23.93% in Kenya) than men (18.97% in Uganda, 16.61% in Kenya). Ugandan respondents had higher rates of discussion than Kenyans. However, Kenyans were more likely to report having received FP messaging through a media source. Here, men had higher rates (78.41% of Ugandans and 86.77% of Kenyans) than men. Women's rates were about 8% lower in both countries.

5.2   Empirical Results

Below are the findings of the statistical models. The full results, which include region, are included in Appendices A and B.

Table 5: Odds Ratios of Contraceptive Use, Models 1-4

	Ugandan Women (Model 1)	Ugandan Men (Model 2)	Kenyan Women (Model 3)	Kenyan Men (Model 4)
Justifies the beating of wives				
No	1	1	1	1
Yes	1.21***	1.04	1.01	0.82***
Number of decisions made jointly				
0	1	1	1	1
1	1.88***	1.10	3.06***	1.19*
2	1.6***	1.29**	2.51***	1.55***
3	2.3***	1.26*	2.74***	1.16*
Currently employed				
No	1	1	1	1
Yes	1.39***	1.90	1.38***	2.11***
Education level				
None	1	1	1	1
Primary	1.80***	1.78**	5.64***	3.51***
Secondary	2.41***	2.88***	5.65***	4.71***
Higher	2.9***	3.63***	7.02***	4.52***
Wealth index				
Poorest	1	1	1	1
Poorer	1.18	1.33*	1.64***	1.83***
Middle	1.28*	1.45**	2.29***	2.05***
Richer	1.27*	2.16***	2.08***	2.56***
Richest	1.23	1.95***	2.34***	2.13***

Age group

15-19	1	1	1	1
20-24	2.1***	0.39	2.27***	0.65
25-29	1.99***	0.39	2.38***	0.67
30-34	1.859***	0.33*	1.82***	0.63
35-39	1.35	0.28**	1.02	0.62
40-44	0.93	0.30**	0.80	0.55
45-49	0.38	0.21**	0.58	0.52

Parity

0	1	1	1	1
1-2	5.54***	3.97***	9.41***	5.07***
3-4	8.19***	4.45***	13***	5.53***
5+	11.01***	5.21***	12.29***	4.64***

Residence

Urban	1	1	1	1
Rural	0.77**	1.01	0.97	1.14*

*** p<0.01, ** p<0.05, * p<0.1

Indicators of Ideology and Equality (Models 1-4)

Justifying wife-beating was significant in predicting contraceptive use for Ugandan women (OR:1.21, p<0.01) and Kenyan men (OR:0.82, p<0.01). Ugandan women who responded that a man may be justified in hitting his wife had higher odds of using a contraceptive method than those who did not justify wife-beating. Kenyan men, on the other hand, had lower likelihood of using contraceptives if they believed men were justified in hitting their wives.

Joint decision-making was significant for all groups. For women of both countries, joint decision-making at every level was significant at the 1% level. Ugandan men had the smallest effect – making one decision together was insignificant, but making two did increase the likelihood of contraceptive use (OR:1.29 p<0.05), and three joint-decisions was only significant at the 10% level (OR:1.26). Kenyan women saw the biggest increases in the likelihood of contraceptive use if they made joint decisions with their partners (significant at the 1% level for each group) and while the effect was slightly smaller for Ugandan women, it was significant at the same level. For Kenyan men, joint decision-making was significant for all groups, but especially for those who made two decisions jointly (OR:1.57, p<0.01).

	Ugandan Women (Model 5)	Ugandan Men (Model 6)	Kenyan Women (Model 7)	Kenyan Men (Model 8)
Received FP messaging through newspaper, TV, or radio				
No	1	1	1	1
Yes	1.08	1.31 **	1.49***	1.49***
Discussed FP at last visit to health facility				
No	1	1	1	1
Yes	1.31***	1.56***	1.32**	1.50***
Currently employed				
No	1	1	1	1
Yes	1.44 ***	1.82	1.37 ***	2.04***
Education level				
None	1	1	1	1
Primary	1.96***	1.79**	3.73 ***	3.30***
Secondary	2.16***	2.73***	3.32 ***	4.4***
Higher	2.68***	3.41 ***	3.88 ***	4.16***
Wealth index				
Poorest	1	1	1	1
Poorer	1.13	1.30*	1.76***	1.81***
Middle	1.19	1.41**	2.27 ***	1.97***
Richer	1.30*	2.06***	2.12 ***	2.55***
Richest	1.22	1.86***	2.54 ***	2.13***
Age group				
15-19	1	1	1	1
20-24	1.90***	0.39	2.56***	0.68
25-29	1.66***	0.39	2.79***	0.71
30-34	1.56**	0.33*	2.06***	0.67
35-39	1.14	0 .29 **	1.32	0.68
40-44	0.85	0.31*	0.77	0.6
45-49	0.24	0.22**	0.48	0.57

Parity

0	1	1	1	1
1-2	6.52 ***	3.84 ***	11.16***	4.92***
3-4	9.541 ***	4.36***	17.75***	4.92***
5+	13.65***	4.94 ***	14.38***	4.30***

Residence

Urban	1	1	1	1
Rural	0.79*	1.02	0.94	1.16**

*** p<0.01, ** p<0.05, * p<0.1

FP Messaging Intervention (Models 5-8)

Receiving FP messaging through a media source (radio, television, or newspaper/magazine) was significant for Ugandan men (OR:1.31, p<0.05), Kenyan women (OR:1.49, p<0.01), and Kenyan men (OR:1.49, p<0.01). The significance and odds ratio both were higher in Kenya than in Uganda, indicating that in Kenya the contact is more efficient in encouraging uptake. Discussing family planning at a health visit, on the other hand, was significant for all groups. For men, the difference between the base group (i.e., those who did not discuss FP at a health visit) and the group who had the discussion was bigger for men than for women. For men, the FP discussion was significant at the 1% level, and they were 1.56 times (Uganda) and 1.50 (Kenya) times more likely to be users than those who did not discuss FP. As for women, in Uganda the variable was more significant (OR:1.31, p<0.05) but the odds ratio was essentially the same for Kenyans (OR:1.32, p<0.01).

Socioeconomic and -demographic Factors (Models 1-8)

The findings for the socio-economic and -demographic factors confirm findings in previous research. Wealth, education, and parity are significant for all countries and both sexes. The association with wealth is the weakest for Ugandan women (only significant at the Middle and Richer quintiles for Model 1 and at the Richer for Model 5). Education is significant at the 1% level for almost every group and provides a clear gradient where the likelihood of being a contraceptive user is higher at each level of education than it is for those who have no education. The effect of education is the strongest in Kenya where the odds of using contraceptive increases significantly for women (Model 3), as those with Higher education have 7.02 higher odds of contraceptive use than those with no education. Parity is perhaps the biggest indicator of contraceptive use and is significant at the 1% level for every group.

Age is not as clearly predictive of use. For women, being between 20 and 34 was significant in predicting the odds of using contraceptives while for Ugandan men, older ages (34-49) were significant. For women, the reference group of 15- to 19-year-olds were less likely than those between 20 and 40 to use contraceptive while for Ugandan men, the 15-19 age group were more

likely to be contraceptive users than other groups. For Kenyan men, age appears insignificant. Residence was significant for Ugandan women and Kenyan men. Rural Ugandan women were less likely to be contraceptive users than those who lived in urban areas whereas rural Kenyan men were more likely to be users than their urban counterparts. Those who were employed had a higher likelihood of using contraceptives (significant at the 1% level), excluding Ugandan men for whom it was insignificant.

6 Discussion

In this section, I discuss the findings and relay them back to previous literature, analysing how they confirm or contradict expectations. I return to both my research questions and hypotheses and see how well my findings align with the expected outcomes. I also touch on the limitations of the study and the areas of future research.

6.1 Research Findings

This study confirms the importance of socioeconomic and -demographic factors in predicting contraceptive uptake and additionally adds to the literature on FP interventions and gender. It finds that there are both cross-country differences and gender differences in the factors that influence contraceptive use and confirms the suggestion that Kenya's contraceptive rates are higher as a result of the policy environment present in the country (Blacker et al., 2005). Both women and men in Kenya have higher general odds of contraceptive use and specific interventions are seen to have bigger odds increases for Kenyans.

Hypothesis #1: Joint decision-making within partnerships lead to higher contraceptive use for both men and women.

Joint-decision making does not lead to higher contraceptive use for all groups. While the effects are significant (p<0.01) and important for women, findings for men do not follow easily-defined patterns. As suggested by previous literature (DeRose, 2010), women who make decisions jointly are more likely to make use contraceptives than women who do not make any decisions with their partners. It is, however, not a clear gradient – in Uganda, women who make three decisions jointly are the most likely to use contraceptives (OR:2.3) compared to those that made none jointly, while in Kenya women making a single decision jointly showed the highest odds of use (OR:3.06) compared to the base group who made none. Joint decision-making increased the odds of contraceptive use more for Kenyan women and men than for their Ugandan counterparts.

For men, both the significance and the effect of joint decision-making is smaller. For Ugandan men, the odds of contraceptive use were the highest for those making two joint decisions compared to none (OR:1.29, p<0.5). For Kenyan men, making two decisions jointly had the biggest effect (OR:1.55, p<0.01) but otherwise joint decision-making was only significant at the 10% level. This may be because joint-decision making serves as a proxy for empowerment for women but for men it does not serve to provide the same information (DeRose, 2010; Mahmood, 2002; Tadesse, 2013).

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While this variable intends to measure the level of spousal trust and communication, it is possible that it does not serve to deliver results that accurately measure these dimensions for both sexes.

Additionally, this outcome can be explained if some "joint decisions" are male-dominated (Wolff et al., 2000). Men may therefore claim that decisions are made jointly when in fact their partners have little actual say in the outcomes, which means that the odds ratio will not accurately reflect the effect of true jointly-made decisions. It is also feasible that there may have been issues related to the specific decision in question – it is not possible to know the effect of any single joint-decision but instead all decisions are given the same weight. Therefore, for some groups it would perhaps be less important to know *how many* decisions were made jointly but instead *which* decisions (i.e., health, household, or financial) were made jointly. This could explain some of the variance in significance for the various groups.

Thus, this hypothesis is supported in part by the results of the statistical analysis but the difference in the odds ratios and significance for various samples make it difficult to draw definite conclusions about the effect of joint decisions for men in this context.

Hypothesis #2: Indicators of women's autonomy and equality would relate to higher contraceptive use for both men and women.

Opinions on wife-beating is not significant for all groups, but it is for Ugandan women and Kenyan men. The Kenyan men who find wife-beating justifiable are less likely to use contraceptives (OR: 0.8, p<0.01) than those who do not. This aligns with the literature which posits that men with traditional views of patriarchal control and physical dominance are less likely to tolerate contraceptive use (Snow, 2013). Both women and men who accept wife-beating are more likely to be rural, less educated, and of a lower socioeconomic status (Uganda Bureau of Statistics - UBOS, 2018) and for men, these characteristics could align with generally lower CPRs.

However, Ugandan women who justify the beating of wives have higher odds of using contraceptives (OR:1.21) than those who do not, which goes contrary to expectations. Previous research has found that women who experience domestic violence have a lowered ability to realise their fertility preferences and that the justification of physical violence against wives may reflect the respondent's opinion that women are of lower status (Snow, 2013). Bases on previous research in West and central Africa, the expectation is that women who tolerative domestic violence should have lower contraceptive rates of use (Olorunsaiye et al., 2017). This finding contradicts the theory that based on their position within the relationship and their ability to advocate on their own behalf, women who justify (and in many cases experience) domestic violence (Olorunsaiye, 2017) are less empowered women have lower contraceptive use.

Kenyan men's behaviour thus confirms this hypothesis while women in Uganda offer a contradiction to the expected findings. Part of this outcome may be explained by the high number of Ugandan women in the sample who are accepting of wife beating (97%). This finding requires further research in order to better understand the specific relationship women in Uganda experience between contraceptive use and the justification or experience of domestic violence.

Hypothesis #3: Environment and social expectations will have a negative effect on both men and women's contraceptive behaviour.

One interesting difference between women and men is the gendered effect of age on contraceptive use. Compared to the reference group of 15–19-year-olds, older women are more likely to use contraceptives while for men, the likelihood drops with age. Given the adolescent rates of sexual activity – between 37 and 45% of adolescents in both countries have had sex before age 19 – this is not an issue of exposure as much as it is connected to social factors (Uganda Bureau of Statistics - UBOS, 2018). In both countries, there are more men who are sexually active than who are married, meaning that nonmarital rates of sexual activity for adolescent men are higher than for women. For Kenyan women, rates of marriage are higher than sexual activity rates and for Ugandan women, there is a very small difference between the number of sexually active and married adolescents. This is tied to relatively high rate of teenage marriage and pregnancy for girls. Combined with the expectation of having a child early in their marriage before adopting contraceptives for spacing or limiting, it may be that younger women are less likely to seek out contraceptives (Samandari, 2010).

Table 7: Adolescent Rates of Sexual Activity and Marriage

	15–19-year-olds married/ cohabitating	**15–19-year-olds who are sexually active**	**15–19-year-olds who have ever had sex**
Kenyan Women (2014)	11.9%	5.3%	37.2%
Kenyan Men (2014)	0.6%	9.6%	40.5%
Ugandan Women (2016)	19.9%	20.7%	45.6%
Uganda Men (2016)	1.9%	10.9%	42.9%

(Data from DHS Program STATcompiler)

In order to prevent nonmarital fertility, young men may be more likely to use contraceptives than older men who are more likely to be married. Women are less likely to have a similar concern given that they spend less time unmarried, and their sexual activity is largely confined to a marital setting. Women's lower social standing and especially the low status of young wives directly hurt their ability to advocate for contraceptives within the marriage (Larsson, 2014). A secondary conclusion from these numbers concerns the effects of an age-gap between wives and husbands. At the times of the surveys, wives in Kenya were on average 5.1 years younger than their husbands and in Uganda, the age gap between wives and husbands was 4.6 years (Tabutin & Schoumaker, 2020). Not only would this explain some of the differences within age groups for the sexes, it also lends credence to the theory that wives may have trouble negotiating for contraceptive use when they are younger or less experienced than their husbands (Paek, 2008).

Supporting the conclusion that fertility expectations are important in predicting contraceptive use are the findings for parity. Parity was significant (at the 1% level) and influential in predicting the odds of contraceptive use of all groups. As parity increases, the likelihood of contraceptive use increases for both countries and all sexes. This relates again to the expectation that couples will have at least one child before implementing contraceptives (Bawah, 1999). Based on cultural expectations, one could assume that most couples would prefer to have at least one child before implementing a contraceptive method. The big odds increases for both women and men therefore confirm expectations and echo previous literature (Samandari, 2010).

Hypothesis #4: Indicators of higher SES will be indicative of higher contraceptive use for both sexes.

The effect of education and wealth are very important for both sexes in Kenya in influencing the odds of contraceptive use. For example, a primary school education (as opposed to no education) improves the likelihood of contraceptive use for Ugandan men by 1.7 compared to 3.4 (model 4) or 3.3 (model 8) for Kenyan men. For women, the differences are even bigger. Firstly, educational level is directly tied to fertility norms and desired family size – as education rises, individuals on average have smaller ideal family sizes (Castro Martín, 1995). However, the effect of education is smaller in Uganda, which may be explained by the general levels of education. As found by Moursund and Kravdal, the levels of education in the surrounding community (especially for women) is an important predictor of CPR and it can even outweigh the importance of an individual's own education, meaning that the education of one group can influence the fertility decisions of their neighbours (Moursund & Kravdal, 2003). Given that the average years of schooling is higher for both women and men in Kenya, it is possible that there exists a more accepting environment for limiting fertility as the general benefits of the practice spreads and becomes the norm across socioeconomic groups.

For women, education may lead to better utilisation of health services (increasing both her own and her child's health) as well as increased status which may give them better negotiating power for contraceptive use (Bollen et al., 2001). Women with more education also tend to marry later, delay childbirth, and have smaller desired family sizes (Kenya National Bureau of Statistics, 2015; Uganda Bureau of Statistics - UBOS, 2018). Although this tie is not as well explored for men, the association is expected. With more education, socioeconomic status may increase as employment opportunities expand (Kawachi, 2010). It could also be that higher socioeconomic groups are more likely to receive an education. More educated men may have more egalitarian views and would therefore better communicate and cooperate with their wives and they may better understand the economic and social benefits to limiting fertility. More educated men would also make more beneficial health choices for both themselves and their families, including the use of contraceptives.

Examining the effect of wealth confirms the interpretation that Kenya is better situated for fertility decline. For Ugandan women, wealth is only significant at the 10% level for women in the Middle (model 1) and Richer (models 1 and 5) quintiles. For Kenyan women, by contrast, higher standing on the wealth index is significant at the 1% level in predicting higher odds of contraceptive use

and women from the Middle, Richer, and Richest categories are more than twice as likely to use contraceptives as the Poorest women. For men, the differences are smaller but Kenyan men still see higher odds of use as wealth increases than Ugandan men do. It is clear also that this is not an issue of Kenya having inherently different social or cultural expectations, but rather the direct effects of education and wealth in each country. Without education, Kenyan women have higher ideal family sizes and similar TFRs, but the simple effect of even a primary school education significantly lowers those numbers far beyond what is seen in Uganda (Kenya National Bureau of Statistics, 2015). This hypothesis thus is supported by the findings and confirms previous research (Starbird, 2016).

Hypothesis #5: Exposure to FP-messaging would have an equally positive effect for women and men.

Discussing FP with a health worker at a health facility was significant for all the groups and those who had such discussion had similar odds ratios for women (OR:1.3) and men (OR:1.5) across the countries at the 5% level (Kenyan women) or 1% level (all other groups). The fact that such discussions lead to higher increased odds for men could be explained by research by Paz Soldan et al. and Okigbo et al., who found that men were more likely to react positively to contraceptives if they were encouraged to use them by men in their social circle or personal acquaintance (Okigbo, 2015; Paz Soldan, 2004). Other research has found that male family planning programs were successfully conducted when delivered by men who trusted in the community such as religious leaders or male peers (Okigbo, 2015). It is interesting that the association is weakest for Kenyan women – this requires further investigation.

Receiving FP through a media source increased the odds of contraceptive use the same for Kenyan women and men (OR:1.49, p<0.01) but was less significant in Uganda for men (OR:1.31, p<0.05) and not at all significant for women. This study confirms the findings of Westoff and Rodriguez who found a significant effect of mass media on Kenyan women's fertility desires and contraceptive use (Westoff, 1995), but contradicts the findings of Gupta et al. who found the same relationship for Uganda women (Gupta, 2003). Given that media programming is received by both women (71%) and men (78%) in Uganda, it may be that media campaigns are not as effective in encouraging contraceptive uptake as they are in Kenya. This hypothesis is not confirmed, given that FP messaging is not significant for all groups and that there are different influences for media campaigns and one-on-one discussions. This is an interesting finding that is relevant to those designing FP policies and requires further research on both women and men.

6.2 Limitations and Future Research

This study has various limitations. Conducting a logistic regression was beneficial in order to see the influence of specific factors for a given group but it did complicate my ability to compare said influences across models to see how countries and genders compare. Given that this study was

focused on seeing the specific contributors to contraceptive use for each group this was fitting, but future research may implement a method that allows for easier comparison across models.

The sample for this study included all individuals who were not pregnant/did not have a pregnant partner and did not want to be pregnant within the next year. However, given that a minority of men are polygamists, some men with a pregnant partner may still have a need for a different relationship. Additionally, there is no way to know for sure that all the individuals in the sample are equally exposed to risks (i.e., regularly sexually active) or have constant partners, which may mean that not all in the sample have a need. Given that this study was interested in the contraceptive use of both married and unmarried people (who are often excluded from studies) this was the best method to implement while keeping the sample sizable. Other studies might adjust some of the parameters of "true need" to more accurately capture the sample who are in need of family planning.

There were also limitations to the data given that male and female questionnaires were not identical. As this was a gendered analysis, there was an incentive to have the models be identical, but it did limit the inclusion of some other variables that would have been of interest, for example questions related to domestic violence. Other indicators that would have been of interest include partner's education level or desire for more children, both of which are only asked of women. Future research may also include religion (in order to better capture cultural influences) and marital status (relating to both norms and exposure). Other studies might also implement a step-wise methodology to ensure that variables are not overcontrolling the outcomes and to more effectively see the odds of some variables.

This study focuses on joint decision-making, but it may also be interesting to study the effect of female- or male-dominated decisions. Given that this study was focused on interrelationship dynamics, joint decisions were a good indicator but contraceptive use may also be influenced by other decision-making dynamics, especially given that men may dominate "joint-decisions" (Wolff et al., 2000). It may therefore be important for future studies to devise a way to measure various decision-making dynamics. Similarly, it might be relevant not to measure media exposure as a joint variable where any exposure contributes to the variable but instead to see the specific effect of radio, television, and newspapers/magazines. Additionally, if the data is available, mobile phone messages are also implemented as an innovative solution to FP programming and could provide interesting insights.

Lastly, future research may expand this study to the wider East African region and include more countries in the analysis to more accurately understand the role of development and also FP program histories. Additionally, a regional analysis for each country could provide insights, given that there are varying levels of development and urbanisation in both nations. Given the differences in the data for men and women, alternative data sources may also be used that make comparisons easier and include a wider range of influencing factors.

7　Conclusion

Globally, more than 200 million women have an unmet need for contraceptives (WHO, 2017). Of these, many live in the SSA region where fertility remains high and barriers to contraceptive use are plentiful. In order to ensure the health, economic prosperity, and wellbeing of the millions of people living in African nations, it is therefore imperative to better understand the influences on contraceptive uptake and family planning. For implementing bodies, it is especially important to understand how programming and social environments affect both the desire for and use of contraceptive so that FP policies can best address the needs of all families and ensure their sexual and reproductive rights.

This paper aimed to better understand contraceptive uptake in Uganda and Kenya, two East African nations where contraceptive use is relatively low and fertility high. It applied a gendered lens to better understand the predictors of women and men's respective contraceptive use and to understand how the same factors may have conflicting (or similar) effects for individuals based on their social identities. This paper not only tried to understand differences within the countries but between them, ultimately finding that Kenya's long history of FP policy and generally higher levels of development has created a more accepting atmosphere for contraceptive use for both sexes.

This study found that Kenya not only has higher rates of contraceptive use, but that their odds of using contraceptives were significantly associated with indicators of general development. Higher levels of education and wealth, for example, especially increased the odds of contraceptive for both sexes in Kenya compared to the effect in Uganda. Furthermore, indicators of gender equality and autonomy affected both women and men, and joint decision-making was especially influential in increasing the odds of contraceptive use for women. Looking at individuals' tolerance of wife beating yielded an interesting finding for Ugandan women, who contrary to the literature were more likely to use contraceptives if they justified domestic violence. This requires further research about Ugandan women's relationship with domestic violence and contraceptive use, including covert use. Findings for Kenyan men confirmed the finding that men who tolerated domestic violence had lower rates of contraceptive use. The effect of family planning exposure was clear and direct discussions with a health worker especially increased the odds of contraceptive use for all groups.

Findings from this study confirm the assumption that social setting, identity, and environment all influence contraceptive use and that there are gendered differences between how these factors play out. Additionally, it finds that family planning programming and policy environment have an important effect. This study confirmed that sustained programming does encourage fertility

decline, an important finding for many African nations that are concerned with fertility transition. Policymakers should focus efforts on creating a conducive environment for FP uptake and should additionally take a gendered approach to programming that take into account the specific needs and concerns of women and men separately and together.

This paper contributes to a tradition of important literature on women's reproductive freedom and, acknowledging the importance of couples' joint fertility decisions, adds the perspective of men's fertility behaviours and influences. It confirms that both sexes are important actors in fertility decisions and that family planning programs must be targeted to match not only the needs of individual communities but also the different groups within those communities. Future research should be focused on expanding the gendered analysis of contraceptive behaviour in SSA and on finding ways to limit the discrepancies between different SES groups in order to ensure that all women and men have free and ready access to methods with which to control their own fertility, and by extension, their lives.

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Appendix A: Complete Results for Models 1-4

	Ugandan Women	Ugandan Men		Kenyan Women	Kenyan Men
Justifies the beating of wives					
No	1	1		1	1
Yes	1.21***	1.04		1.01	0.82***
Number of decisions made jointly					
0	1	1		1	1
1	1.88***	1.10		3.06***	1.19*
2	1.6***	1.29**		2.51***	1.55***
3	2.3***	1.26*		2.74***	1.16*
Currently employed					
No	1	1		1	1
Yes	1.39***	1.90		1.38***	2.11***
Education level					
None	1	1		1	1
Primary	1.80***	1.78**		5.64***	3.51***
Secondary	2.41***	2.88***		5.65***	4.71***
Higher	2.9***	3.63***		7.02***	4.52***
Wealth index					
Poorest	1	1		1	1
Poorer	1.18	1.33*		1.64***	1.83***
Middle	1.28*	1.45**		2.29***	2.05***
Richer	1.27*	2.16***		2.08***	2.56***
Richest	1.23	1.95***		2.34***	2.13***
Age group					
15-19	1	1		1	1
20-24	2.1***	0.39		2.26***	0.65
25-29	1.99***	0.39		2.38***	0.67
30-34	1.89***	0.33*		1.82***	0.63
35-39	1.35	0.28**		1.02	0.62
40-44	0.93	0.30**		0.80	0.55

45-49	0.38	0.21**		0.58	0.52

Parity

0	1	1		1	1
1-2	5.54***	3.97***		9.41***	5.07***
3-4	8.19***	4.45***		13***	5.53***
5+	11.01***	5.21***		12.29***	4.64***

Residence

Urban	1	1		1	1
Rural	0.77**	1.01		0.97	1.14*

Region

Kampala	1	1	Coast	1	1
South Bugando	1.25	0.89	North Eastern	0.15***	0.14***
North Bugando	1.22	1.00	Eastern	1.24	1.27**
Busoga	0.82	0.89	Central	1.19	1.39**
Bukedi	1.15	0.85	Rift Valley	0.87	1.06
Bugisu	2.33***	1.65*	Western	1.05	1.24
Teso	0.86	1.88**	Nyanza	1.01	1.47**
Karamoja	0.16***	0.33**	Nairobi	0.94	1.36
Lango	1.11	1.56			
Acholi	0.82	1.82**			
West Nile	0.40***	0.59*			
Bunyoro	0.91	1.10			
Tooro	1.22	1.44			
Ankole	0.85	1.66*			
Kigezi	1.23	1.75*			

*** p<0.01, ** p<0.05, * p<0.1

Appendix B: Complete Output for Models 5-8

	Ugandan Women	Ugandan Men	Kenyan Women	Kenyan Men
Received FP messaging through newspaper, TV, or radio				
No	1	1	1	1
Yes	1.08	1.31 **	1.49***	1.49***
Discussed FP at last visit to health facility				
No	1	1	1	1
Yes	1.31***	1.56***	1.32**	1.50***
Currently employed				
No	1	1	1	1
Yes	1.44 ***	1.82	1.37 ***	2.04***
Education level				
None	1	1	1	1
Primary	1.96***	1.79**	3.73 ***	3.30***
Secondary	2.16***	2.73***	3.32 ***	4.4***
Higher	2.68***	3.41 ***	3.88 ***	4.16***
Wealth index				
Poorest	1	1	1	1
Poorer	1.13	1.30*	1.76***	1.81***
Middle	1.19	1.41**	2.27 ***	1.97***
Richer	1.30*	2.06***	2.12 ***	2.55***
Richest	1.22	1.86***	2.54 ***	2.13***
Age group				
15-19	1	1	1	1
20-24	1.90***	0.39	2.56***	0.68
25-29	1.66***	0.39	2.79***	0.71
30-34	1.56**	0.33*	2.06***	0.67
35-39	1.14	0 .29 **	1.32	0.68
40-44	0.85	0.31*	0.77	0.6
45-49	0.24	4.94 **	0.48	0.57

Parity

0	1	1		1	1
1-2	6.52 ***	3.84 ***		11.16 ***	4.92***
3-4	9.541 ***	4.36***		17.75***	4.92***
5+	13.65***	4.94 ***		14.38***	4.30***

Residence

Urban	1	1		1	1
Rural	0.79*	1.02		0.94	1.16**

Region

Kampala	1	1	Coast	1	1
South Bugando	1.32	0.84	North Eastern	0.17***	0.13***
North Bugando	1.07	0.97	Eastern	1.19	1.24*
Busoga	0.73	0.85	Central	1.06	1.39***
Bukedi	1.10	0.87	Rift Valley	0.77	1.00
Bugisu	2.26***	1.59	Western	0.67*	1.21
Teso	0.77	1.57	Nyanza	0.59**	1.32**
Karamoja	0.16***	0.35**	Nairobi	1.36	1.22
Lango	1.20	1.50			
Acholi	0.80	1.74*			
West Nile	0.37***	0.61			
Bunyoro	1.05	1.05			
Tooro	1.23	1.38			
Ankole	0.96	1.57			
Kigezi	1.28	1.56			

*** p<0.01, ** p<0.05, * p<0.1