

GENDER DIFFERENCES AND CONDOM
USE AMONG UNMARRIED URBAN
ADOLESCENTS OF KENYA, TANZANIA,
AND RWANDA

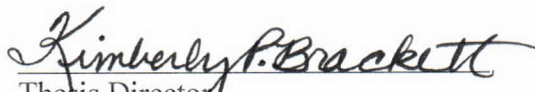
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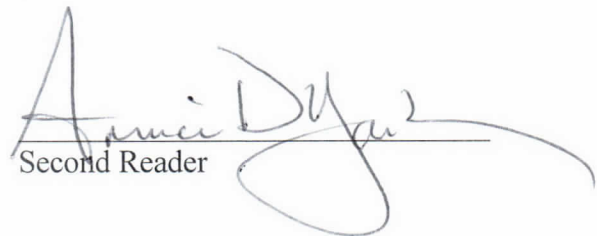
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Abstract

Gender Differences and Condom Use among Unmarried Urban Adolescents of Kenya, Tanzania, and Rwanda

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This study examines the relationship between gender differences and condom use, with particular attention to the adolescent population aged 15-24 who are unmarried and live in urban areas of Kenya, Tanzania, and Rwanda. Data for analysis came from 280 sexually experienced youth who participated in the Demographic Health Survey (DHS). The logistic regression results reveal that both male and females with 12 years or more of education and who were sexually active within four weeks prior to the survey increased the odds of reporting condom use at both first and last sexual intercourse. The results were primarily significant in Kenya and marginally significant in Tanzania but had no significance in Rwanda. In conclusion, the study highlights the continued need to address more effective programs specifically designed to incorporate gender stratification issues in order to encourage consistent condom use among adolescents.

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CHAPTER 1

INTRODUCTION

With the continuing spread of the HIV/AIDS epidemic in Africa, the adolescent population will play an important role in the course of the AIDS epidemic. Developing countries such as Kenya, Tanzania, and Rwanda, each with a growing population of adolescents are important because research suggests that the sexual behavior patterns of adolescents will impact their sexual habits; these habits often persist into adulthood. UNAIDS studies estimate that the adolescent population aged 15-24 years in Africa will triple in number by 2010 (Adegoke,2001; UNAIDS, 2004), necessitating the exploration of this study on gender differences in condom use among unmarried urban adolescents in Kenya, Tanzania, and Rwanda. Examining this population will provide insight into sexual attitudes, knowledge and awareness of HIV/STDs, and knowledge of prevention methods. This insight is especially important in terms of evaluating these countries, where there is growing concern over the alarming rates of HIV prevalence and incidence among youths. Furthermore, these countries may suggest possible implications for changes in policy with regard to the adolescent population and the effects of these practices on reproductive health and risks. These issues will be explored with data from the Demographic and Health Survey (DHS).

The urbanization of Africa has been on a continuous climb since the twentieth century. According to Dyson (2003) the process of urbanization is “the rise in the proportion of a country’s total population that lives in urban areas—is a fundamental feature of socioeconomic development” (p.427). In developing countries like Kenya,

Tanzania, and Rwanda, estimates of HIV prevalence rates are higher in urban areas than in rural areas. For instance, among pregnant women in the Rwandan population, the median HIV prevalence rate for 2005 in major urban areas was 7.5 percent and in rural areas was 2.7 percent (Khan and Mishra, 2008). Scholars have agreed that HIV prevalence is significantly higher in urban areas than in rural areas, however data collection within rural populations is not a total composite of the demographic of the rural areas.

Extensive research has revealed that the current HIV/AIDS prevalence rates are positively associated with population density. This is true for such countries as Kenya, Tanzania, and Rwanda. Some possible explanations for this positive relationship can be explained in three points: 1) urban areas internalize new social influences such as drug use and crime; 2) social interaction between genders are higher in urban areas, and the sphere of social interaction is wider—which includes sexual interaction; and 3) the urban area has higher rates of risky sexual behavior such as prostitution (Brockerhoff and Biddlecom, 1999; Dyson, 2003). Comparatively, most of sub-Saharan Africa is predominantly rural. For example, Tanzania is both the largest and most populous country in East Africa, however the majority of the country's population is rural—even though a major city like Dar es Salaam has a population of 2.5 million (Middleton, 2008). Sub-Saharan Africa illustrates the positive relationship between HIV infection and levels of urbanization because these countries “are comparatively homogeneous socioeconomically and with respect to the epidemic's main features” (Dyson, 2003:430). Primarily, the urban environment constitutes a higher fraction of the total population and

HIV infection rates are lower but likely to rise with greater migration between rural and urban populations.

The urban environment provides dwellers the opportunity for better transport infrastructure, education, social and health services, and socioeconomic gain. However, other factors outside of urbanization influence the degree of HIV prevalence rates, and to some degree HIV prevalence influences the definition of an urban area. For example, some countries define their urban areas having less than 200 people, while some argue that populations of 50,000 are considered an accurate account of an urban environment (Dyson, 2003). Research conducted by Walle (1990) suggests that the urban environment offers the individual freedom from the restrictions of a traditional way of life. For many adolescents, the city provides an environment for liberation. For women, the city provides financial independence and, in some instances, provides sexual freedom. This type of environment encourages premarital sexual activity, lower condom usage, and it results in higher premarital pregnancy. On average, younger female adolescents in sub-Saharan Africa use contraceptives at a much lower rate than do women older than 20 (Gorgen, Yansane, Marx, and Millimounou, 1998).

According to the UNAIDS 2004 global report on sub-Saharan Africa's young adult population aged 15-24, 6.9 percent of women and 2.1 percent of men are estimated to be living with HIV. Infection rates differ between men and women aged 15-24. For instance, the UNAIDS comparison of the ratio of young women living with HIV to young men living with HIV, is 45 women for every 10 men in Kenya and 20 women for every 10 men in South Africa (UNAIDS, 2004). Amazingly, the main route of transmission of HIV/AIDS in sub-Saharan Africa is heterosexual transmission, unlike

other countries in the world such as the former Soviet Union (present day Russia), where HIV transmission is primarily through intravenous drug use (Dyson, 2003). The lack of condom use among adolescents has impacted the landscape of urbanization and its impact on HIV prevalence in sub-Saharan Africa. However, sexual initiation is an important precursor for sexual behavior patterns later repeated into young adulthood, especially in terms of future condom use—to which the following discussion pertains.

Despite the commonly held belief that young people today have sex earlier than in previous generations in most sub-Saharan African countries, the average age for first intercourse has remained the same or has only slightly increased, most notably in urban areas (Brockerhoff and Biddlecom, 1999; Kiragu and Zabin, 1993). However, the total adolescent population is at increased risk of exposure to infection with HIV and sexually transmitted diseases (STDs), primarily due to the total prevalence of AIDS on the continent (UNAIDS 2004). It is estimated that 30 percent of new HIV and STD cases will come from people younger than 25. According to previous studies in sub-Saharan countries, women 15-24 are twice as vulnerable as their male counterparts to become infected by HIV/AIDS or STD, which raises major public health concerns (Brockerhoff and Biddlecom, 1999; Prata, Vahidnia, and Fraser, 2005; UNAIDS, 2004). The statistical data demonstrate the importance of adolescent sexual behavior and the pattern differences between males and females. Hence, the differences in reproductive risks among males and females must be considered.

The age of first intercourse varies from country to country and, within countries, between males and females. In general, males are reported to experience premarital sex earlier than are young women because premarital sex is acceptable for males, whereas

women are expected to postpone first intercourse until marriage (Adegoke, 2001; Djamba, 1997; Smith, 2002; Njogu and Martín, 2006; Zabin and Kiragu, 1998). Risk factors that contribute to the prevalence of HIV and STDs among male and female adolescents are: females having sex (for money or) with older male sexual partners; both having multiple sexual partners; males having sex with prostitutes; and both having unprotected sex (Adegoke, 2001; Brockerhoff and Biddlecom, 1999; Djamba, 1997; Njogu and Martín, 2006; Smith, 2002; Zabin and Kiragu, 1998). Several studies in African nations have shown that young people lack knowledge about contraception and disease prevention, and they often hold traditional ideals about reproductive health.

As discussed, sexual initiation is an important determinant for sexual behavior patterns as adolescents progress into adulthood. However, urbanization is considered another indicator because of its impact on fertility and mortality. Evidence shows that the pace of urbanization significantly slows migration patterns. For instance, Dyson (2003) references scholarly research that suggests that when individuals who migrate fall ill, they return to those rural areas from which they had emigrated. In addition, members of households who survive an individual's death from AIDS usually return back to rural areas as well. Moreover, the impact of urbanization on fertility (birth rates) is reduced by HIV/AIDS, which is likely to be higher in urban areas primarily due to the higher infection rates. HIV/AIDS is expected to lower birth rates by eliminating women of childbearing age. Furthermore, "HIV-positive women experience lower levels of fertility than HIV-negative women" (Dyson, 2003:433). When mortality rates are high due to high levels of HIV infection rates in urban areas, it results in the slowing of urbanization by rising death rates directly and/or indirectly, thus affecting the reduction of birth rates.

Compared to rural areas, urban areas have higher death rates and lower birth rates suggesting that urban rates of population increase will be reduced significantly more than rural areas in sub-Saharan Africa (Dyson, 2003; UNAIDS, 2004).

This paper examines the relationship between gender differences and condom use, with particular attention to the adolescent population aged 15-24 who are unmarried and live in urban areas of Kenya, Tanzania, and Rwanda. The health risks and sexual consequences of HIV/AIDS and STDs have placed the adolescent population at extremely high risk for even higher prevalence and incidence rates for HIV/AIDS than their parents' generation. As previously discussed higher mortality and lower fertility rates affect the pace and possibly the function of urbanization—which have other implicating factors to the adolescent population, such as lower educational attainment and less AIDS-related knowledge among adolescent males and females. However, differences in HIV prevalence rates are drastically different among young men and women, especially in sub-Saharan Africa. In order to examine gender differences, this paper will examine a significant precursor for safer sexual behavior, condom use. Condom use patterns vary between men and women however condom use among women is very low because in most cases women are unable to negotiate condoms use with their sexual partner during sexual intercourse.

The factors that contribute to the lack of condom use (such as sexual/condom knowledge, attitudes toward condom use, and the effects of condom use in sexual activity) are important to this research. Moreover, the understanding of gender differences and condom use will be explained through the broad theoretical discussion of gender stratification. The aforementioned gender socialization and social consequence of

young men and women includes the review of gender-based power and gender roles which best fits present empirical data on adolescent condom use. I employ the works of Randall Collins, Rae Lesser Blumberg, and other theorists, in an attempt to explain this rising phenomena of HIV/AIDS rates among adolescents in sub-Saharan Africa.

Countries of Interest

Sub-Saharan Africa consists of ten percent of the world's population, but represents two-thirds of all people living with HIV—some 25 million (UNAIDS, 2004). In most African nations, the HIV epidemic is spreading throughout the general population at alarming rates. The UNAIDS 2004 global report estimated that in 2003, in sub-Saharan Africa 3 million people became newly infected and 2.2 million in the region died of AIDS. In countries such as Kenya, Tanzania, and Rwanda, the adult population is growing, and the number of people with HIV has increased, making the stabilization of HIV prevalence rates an important challenge. Even within countries, prevalence rates vary from region to region. Moreover, scholars have recognized that prevalence rates in urban areas are higher than in rural areas (Brockerhoff and Biddlecom, 1999; Dyson, 2003; UNAIDS, 2004), with community-based studies in sub-Saharan Africa showing that HIV prevalence rates are twice as high in urban areas as in rural areas.

It has been documented that a high proportion of people become sexually active during adolescence in sub-Saharan African countries (Prata et al., 2005) contributing to higher HIV prevalence and incidence rates among adolescents. This paper gives particular emphasis to three sub-Saharan African countries—Kenya, Tanzania, and Rwanda. The background descriptions of significant geographic, economic, social/cultural, and political factors pertaining to each country are discussed. The

comparison of these sub-Saharan countries with close proximity to one another makes one wonder if any differences in gender roles and sexual roles cross country borders. Each country faces its own burdens and difficulties with regard to the youth population, the rise of HIV and STD rates, and population density concerns. Research in these countries will be beneficial to governmental agencies concerning policy and implementation of programs geared towards target populations. In addition to background information on each country, detailed HIV/AIDS prevalence and incidence rates and reports will be examined.



Figure 1: Map of Africa (Printable Maps, 2009)

Kenya

Kenya borders several African countries: Ethiopia to the north; Somalia to the east; Sudan to the northwest; Uganda to the west; and Tanzania to the south.

Geographically Kenya is one of the most diverse countries in Africa. With various and distinct climate conditions which range from “coral reefs to plains to alpine tundra, alpine glaciers to humid, wet tropics to arid savannas” (Middleton, 2008:96) Kenya is distinct from other sub-Saharan countries. Regarding climate conditions, droughts are common in Kenya. Kenya experienced large drought devastation in 1984, again from 1991 to 1993, another episode more recently in 2006, but mainly affecting the north and northeastern regions.

A major resource in Kenya is land; however, less than 8 percent is cultivated. Agriculture accounts for 30 percent of the gross domestic product (GDP) and employs about 75 percent of the labor force, and with more than half of the labor force in subsistence farming (Middleton, 2008). The gross national per capita income is \$1, 470; however, the population living below the poverty line, last estimated in 1997, is 22.8 percent (UNAIDS/WHO, 2008). During the colonial period, European and Asian investors controlled Kenyan land, which produced large-scale commercial plantations (initially created with forced African labor). But after independence from colonial powers, the Kenyan government created a substantial number of African sharecroppers each owning less than five acres of land. Kenya produces cash crops such as coffee and tea. However, currently, cut flowers have surpassed the coffee and tourism industries becoming the second most important source of foreign exchange. Other exportable products consist primarily of fruits, especially pineapple, nuts such as cashews, wheat,

corn, and sugarcane. Principle staple crops are maize, sorghum, cassava, and bananas.

The third largest and growing sector of the Kenyan economy is manufacturing, producing 20 percent of the GDP. Manufacturing consists of the production of plastics, furniture, soap, cement, textiles, and clothing; trucks and passenger vehicles; tires; chemicals; and petroleum products-which are based entirely on imported crude oil (Middleton, 2008).

Currently Kenya's economy is suffering consequences from its former prosperous economic times following independence. Within the global market, Kenya has lost several international agreements between coffee-producing and coffee-consuming nations to cheaper lower-quality Asian coffee. Kenya has been suffering from substantial trade deficits, aggravated by numerous reasons such as higher fuel cost, which began to rise in the mid-1980s. Other factors include: the growing national debt causing serious nation-wide economic strain; governmental corruption; and withdrawal of foreign-aid contributions by wealthier European, Asian, and American investors. Kenya is facing difficult times meeting the ever evolving challenges of the new century.

The current population of Kenya is estimated to be 37 million (2007). However, declining population growth patterns have been a continuous problem in Kenya from declines of 3.6 percent in the 1980s to 2.6 percent between 1995 and 2000. This is despite Kenya's fertility rate of 4.9 percent, one of the highest in the world. Statistically, the younger population has a median age 18.2 years and only 4.2 percent of the population is over 65 years of age. Moreover, like other African nations, Kenya has a growing youth population, especially among the middle-class, with 44 percent of its population under the age of fifteen, and a median age of 17.9 years. Furthermore, Kenya's life expectancy at birth is 52 for males and 55 for females.

Kenya's population boasts a large ethnic community consisting of over forty ethnic groups. The Kikuyu group, which makes up 22 percent of the population, is the largest; the Elmololo, who number under three hundred individuals, is the smallest. Other ethnic groups of significant size are Kalenjin, Luo, Luyha, Kamba, and Meru. Other groups such as Massi, Somali, and Swahili make up more than 2 percent of the country's total population; Non-Africans (Arab, Asian, and European) account for 1 percent. Major languages spoken in Kenya are English, Kiswahili, Kikuyu, Nandi, Kamba, Lukuya, and Luo. The languages spoken in Kenya are taken from three different major African indigenous languages (Bantu, Nilotic, and Cushitic)—which are not intelligible to each other (Middleton, 2008).

Nairobi is the administrative and financial capital of Kenya with a population of roughly 3 million. Forty-two percent of the total population lives in urban areas throughout Kenya. However, urban communities are increasingly becoming multi-ethnic centers and are experiencing the stresses and hardships that characterize the lives of urban dwellers. Urban dwellers are regularly faced with lower wages or joblessness, shortages of food, limited community services, and inadequate access to education and health care. Inadequate access to education is evident in the country's medium low literacy rate (2000-2004) of 73.6 percent (World Health Statistics, 2006). A growing problem in the urban environment is the intermingling of various ethnic groups, which has resulted in violent ethnic clashes (Middleton, 2008).

Kenya gained independence from Great Britain in 1963. In 1991, the government went from a broken single-party system to a multiparty democracy, which has proven to be a difficult task. Similar to other African colonial countries, Kenya has suffered from

the accomplishment of independence from Great Britain and its internal post-independence strife within political parties and among political allies and oppositions. Kenyans have acknowledged that political corruption is a major problem and that it has crippled their government and economy, especially in the eyes of other world leaders. With unemployment at 25 percent and state-owned enterprises being sold to government political allies, Kenya is a country divided with donor countries cutting off debt relief, and suffering from continuous government corruption.

According to the UNAIDS/WHO 2008 Kenyan epidemiological fact sheet, the HIV prevalence rate among female adolescents ranges from 4.6 percent at its lowest to 8.1 percent at its highest, whereas for males, the prevalence rate is 0.6 at its lowest to 2.1 percent at its highest. As of 2007, Kenya is estimated to have at least 1.9 million adults (15 years old and older) and children living with HIV. More importantly, roughly 900,000 to 1.1 million of those living with HIV are women. Prevalence rates reported as recently as 2003 for young people are 1.3 for males and 5.9 for females. Moreover, it is estimated that 120,000 to 140,000 adults and children died from AIDS in 2001. However, according to recent data, the deaths due to AIDS for adults and children declined slightly from 2001; 2007 estimates are 90,000 to 110,000 deaths, respectively (UNAIDS/WHO, 2008).

Tanzania

Tanzania is located on the east coast of Africa just below the equator and includes the islands of Zanzibar, Mafia, and Pemba. With a total land area of 587,258 square miles and a population of 36.8 million people in 2005, Tanzania is the largest and most populous country in East Africa. It is hugged by the Indian Ocean to the east, and

bordered by Kenya and Uganda to the north; Rwanda, Burundi, and the Democratic Republic of the Congo to the west; and Malawi, Zambia, and Mozambique to the south. Tanzania has three major geographical regions, the coastal plain, highlands in the north and south, and the interior plateau. Notable geographic features include Mount Kilimanjaro—Africa's highest point—and the Great Rift Valley. The colonial occupation of Germany (German East Africa, 1885-1917) and Great Britain (Tanganyika, 1919-1961) created arbitrary boundaries combining 120 different language groups. The modern configuration of Tanzania is the result of the 1964 revolt against the Zanzibar sultanate, which led to the union of the island nations with the mainland (then called Tanganyika) in order to create the United Republic of Tanzania (1964-) (Middleton, 2008).

With a population of 36.8 million people (2005), Tanzania's population is unevenly distributed with most individuals settling in three areas—the Indian Ocean coast, lake region, and northern and southern highlands, leaving vast areas of the interior of the country sparsely populated. A majority of the population lives in the rural parts of the country. Twentieth century urbanization has accelerated the urban population in major cities such as Dar es Salaam, Arusha, and Dodoma. Tanzania's financial and administrative capital is Dar es Salaam with a population of 2.5 million. Life expectancy at birth for males is 47, and 49 for females, and has slightly increased as well (World Health Statistics, 2006).

Colonialism reoriented Tanzania's ancient Indian Ocean trade and the promotion of new agricultural export commodities such as sisal, tea, coffee, tobacco, and cotton. The incorporation of Tanzania's exports into the world economy led to the establishment of an African peasant class and regional differentiation, which are two social problems

that continue to influence the country's economic development. During the British reign, British colonial policy restricted the involvement of African personnel and deemphasized the importance of African education. Thus, after independence, Tanzania had very few universities and/or university graduates, highly uneven regional development, and an economy heavily dependent on the export of a few agricultural commodities. Currently, Tanzania's manufacturing sector has made an insignificant contribution to the country's GDP. In the early twenty-first century the economy remained dependent on agriculture, employing 85 percent of the country's workforce and accounting for 75 percent of its exports. Principal crops include coffee, cotton, cashew and/or nuts, tea, sisal, and tobacco. The manufacturing sector has grown 63 percent annually from 1996-2004. During this period, the GDP growth increased significantly and inflation has been under control. Foreign nations took notice of Tanzania's growth such that investment in the country increased, most of which was directed toward tourism and mining. As a result, tourism has become the second largest source of foreign exchange after agriculture, and mining has seen a steady increase at 15.5 percent per year.

Contrary to the country's economic growth, Tanzania remains one the least developed countries in the world. The gross national per capita income is 600 USD, and per capita GDP is 800 USD. The national debt has far surpassed the growth of the country's GDP. Nevertheless, total external debt reached \$7.9 billion in 2004, while an estimated 40 to 50 percent of the population still lives below the poverty level. According to 2004 statistics by international NGOs, annual per capita income is estimated at 320 USD and GDP growth at 6.3 percent (Middleton, 2008). According to the International Monetary Fund, Tanzania's debt was deemed "unsustainable," and the nation has been

categorized as a “highly indebted poor country,” allowing the country to be eligible for debt relief (Middleton 2008:7-8).

As with most African nations, Tanzania encompasses many different cultures and peoples as it has developed as an entity out of the colonial era. The people of Tanzania have built their cultures and societies both on the subsistence they provided for themselves and on the historical movement of people, ideas, and anthropological tools found across the landscape. Their diversity reflects long-term processes of social and economic development within particular landscapes of the region. Similar to Kenya, the language of Tanzania comes from all four of the major indigenous language families found in Africa (Bantu, Khoesan, Cushitic, and Nilo-Saharan), making the country one of the few areas in Africa with such diversity. However, the official languages of the country are Kiswahili and English. The influx of immigrants has incorporated the adaptation of old local language communities such as Indian language-speakers, Arabs, Portuguese, Mariners, and German and English colonizers who have all left their mark on the country. Cultural mores within these particular communities vary with languages and landscapes. The determination of kinship remains by and large a general organizing principle following the patrilineal descent system. However, some communities recognize kinship through the matrilineal side; such tribes are Luguru, Sagartu, and Kaguru.

Two major religions are practiced in Tanzania: Islam and Christianity. Both religions each account for 45 percent of the population. Then percent of the population participates in indigenous religions. Islam came to the Indian Ocean coast along the Arab trade routes that reaches back to many centuries. In the nineteenth century, Swahili

traders carried the religion far into the interior of the country, which tapped into ivory and slave trade beyond the borders of Lake Tanganyika—located in modern-day western Tanzania. Toward the end of the nineteenth century and especially during the twentieth century, Christianity arrived with European missionaries who led the way towards colonial conquest and assimilation to colonial traditional rule. Both monotheistic religions gained adherence in the local population, who also shaped the practice of these universal faiths to local customs and traditions.

The political process of Tanzania has continued after the end of the colonial rule of both Germany and Great Britain. The mainland first became a recognized state in 1884 in the wake of the Berlin Conference when it was ceded to Germany, becoming at the time Deutsch Ouest Afrika that included Rwanda, Burundi, and an area of Northern Mozambique. Mainland Tanzania became independent as Tanganyika in 1961, and the offshore island state of Zanzibar followed in 1963. The two states merged to form The United Republic of Tanzania in 1964 after a bloody revolution on the Isles of Zanzibar and Pemba. The arbitrary line created in the nineteenth century by Europeans bind together Tanzanian peoples, cultures, languages, and pre-colonial states into a new political entity. These components of the new colony had long-lasting social and economic elements of coherence that proceeded into present day. The current political system remains a multi-party democracy. However it faces some challenging constitutional loopholes in order to ensure continuous dialogue among all political actors and also create an environment where meaningful political competition is established. According to Middleton (2008), this is the greatest challenge facing Tanzania in the years

ahead as it emerges from decades of single-party rule and seeks to establish a stable and sustainable democracy.

Due to the rapid growth of the AIDS pandemic, there is an overwhelmingly large orphan population in the country. The high levels of food poverty and accompanying malnutrition have weakened the working class and crippled those already affected by HIV. According to the UNAIDS/WHO 2008 Tanzania epidemiological fact sheet, the HIV prevalence rate among adults 15-49 (2007) ranges from 5.8 percent at its lowest to 6.6 percent at its highest; the total prevalence rate for 15-49 years-old is 6.2 percent. According to the data from a 2001 survey, among adults (15 years of age and older) and children, between 1.3 and 1.4 million were living with HIV. As of 2007, estimates for individuals living with HIV rose to 1.5 million living with HIV. The number of women (15 years old and older) estimated in 2007 to be living with HIV ranged from 710,000 to 810,000. Most recent HIV prevalence rates among young people indicate that adolescent males' rate is 3.0 and adolescent females' is 4.0 (2003). According to 2007 data, Tanzania's death rate due to AIDS for adults and children is 86,000 to 110,000 per year (UNAIDS/WHO, 2008).

Rwanda

Rwanda is a small country with 10,160 square miles of land. Rwanda is positioned in the Great Lakes region of Africa with a population estimated to be roughly 10 million (2007). It borders the Democratic Republic of the Congo (DRC) to the west, sharing Lake Kivu with its neighbor, Tanzania to the east, Uganda to the north and Burundi to the south. Rwanda has been given the nickname *la pays de milles collines* (the land of a thousand hills) because of its central plateau area dominated by hills. Its

geographical make-up consists of volcanic mountains to the northwest, savannas to the northeast and east, large hilly plateau to the east, the Nile-Zaire crest watershed in the west, and a large marsh to the south (Middleton, 2008). Rwanda's climate is distinct for its position in East Africa. It consists of two-rainy seasons from February to April and November to January and two-dry seasons.

The only indigenous language of Rwanda is Kinyarwanda. However, French and English are the official languages of the nation. Ninety-four percent of the population practice some form of Christianity, 4.6 percent are Muslims, and less than one percent follow indigenous beliefs. Ethnic makeup consists of three major ethnic groups—Hutu, Tutsi, and Twa—who live, intermingled, throughout the country. The breakdown among the three ethnic groups is 84 percent Hutu, 15 percent Tutsi, and 1 percent Twa. According to these ethnic groups there are particular alleged physical characteristics that are distinct for each ethnic group. Historically, the Hutu, Tutsi, and Twa were created during the pre-colonial period by the conquest and assimilation of neighboring African kingdoms. The populations of these kingdoms were assimilated by force as either Hutu if they were agriculturalist, Tutsi if they were pastoralist, and the predominantly forest-dwelling pygmies were incorporated as Twa (Middleton, 2008).

Rwanda has the highest population density in Africa. Rwanda's population density is more than 300 people/sq km--the highest in Africa (World Health Statistics, 2006). The financial and administrative center is Kigali, which has a population of approximately one million residents. Twenty-two percent of the population lives in urban areas. The fertility rate is high, and the population has been increasing at a rate of about 2.8 percent annually. The population is expected to reach approximately 12 million by the year 2012.

With 41.9 percent of the total population under fifteen years of age, the average life expectancy is 43.9 years of age (42.1 for males and 45.6 for females). The low life expectancy could be due to the consequences of genocide or an unexplained medical phenomenon not detailed by UNAIDS/WHO 2008 reports. Sixty-four percent of the population is literate; with more literate males (70.5%) than females (58.8 %) (Middleton, 2008).

Rwanda's economy consists of 45 percent of arable landmass, and 81.5 percent of its population reside in primarily rural regions of the nation. Agriculture accounts for 40.1 percent of GDP, manufacturing and/or industrial sector make up 22.9 percent, and services account for 37 percent of the GDP. However, overseas development aid provides an additional 20.3 percent to the GDP. The main crops are beans, bananas, sorghum, and sweet potatoes (primarily for home consumption), as well as some livestock production, and Rwanda also exports a small amount of hides and tin ore. Principal crops consist of cash crops such as coffee, tea, and pyrethrum. Coffee is a small-holder crop, with 80 percent of households growing coffee, while tea and pyrethrum are grown on government-owned plantations. More than 90 percent of Rwanda's population is predominantly subsistence agricultural, which accounts for the gross national per capita income of \$1,300 and 51.7 percent. The majority of Rwanda's population still lives below the poverty line according to a 1999-2000 UNAIDS reports (UNAIDS/WHO, 2008). Similar to most sub-Saharan African societies, Rwanda's women are the major caretakers of daily agricultural tasks, while men and women share heavy agricultural work. The gendered division of labor for agricultural tasks is primarily handled by women who have control over crops kept for household consumption, while men control

the cash generated through cash crops and any subsistence crops that are sold outside the home (Middleton, 2008).

In 1994, Rwanda shocked the world when more than one million people, mostly ethnic Tutsi, were killed through state-sponsored violence. Rwanda's genocide and ethnic war created a large international-aid and refugee predicament stretching into several countries such as DRC, Uganda, Burundi, and Tanzania. This mass exodus from the country created a shortage of human resources, especially within the health and economic sectors. Rwanda's genocide can be attributed to several factors: land-grabbing by powerful elites who were loyal to present President Habyarimana; high population densities; high poverty and unemployment rates; the invasion from the Uganda border by the Rwandan Patriotic Front (RPF); and the manipulations of ruthless Hutu demagogues against Tutsi clan peoples. In post-genocide Rwanda, the introduction of far-reaching economic, social, and political changes has occurred. However, Rwanda still maintains some connections with the past, most notably the centralization of political power and an elite scramble for limited resources within the country. Despite the horror of the 1994 genocide, two important challenges face Rwanda in the new century: centralized control by elites of the main means of production, land in particular; and the power of local authorities. As a result, the Rwandan state imposes firm land parameters, but still allows local administrators to use discretion in how to interpret and apply those parameters (Middleton, 2008).

In Rwanda, UNAIDS/WHO estimates the HIV prevalence for female adolescents is 1.4 percent, and for male adolescents is 0.5 percent. The number of adults (15 years old and older) and children living with HIV in Rwanda for 2001 is 170,000 to 210,000, and

for 2007 are 130,000 to 170,000. The most recent results for women living with HIV are 69,000 to 88,000. As of 2005, HIV prevalence rates for young people range from 0.4 for males and 1.5 for females. As of 2007, data reveals that 5,700 to 10,000 adults and children were estimated to have died due to AIDS in 2005 (UNAIDS/WHO, 2008).

CHAPTER TWO

LITERATURE REVIEW

The AIDS epidemic has grown into an extraordinary crisis especially in sub-Saharan Africa. AIDS on the African continent has had an interesting pathology and impact on almost every aspect of the society. According to the 2004 UNAIDS global AIDS report, nearly 20 million people have died from the disease, and roughly 37.8 million people worldwide are living with the virus. The alarming rates of people living with HIV around the world has not changed behavior among the adolescent population; they account for half of all new HIV infections worldwide (UNAIDS, 2004). This is problematic when the adolescent population as a whole is on the rise, especially in Africa (Adegoke, 2001). In addition, women are 30 percent more likely to be HIV-positive than are males. Younger women's rates of infection are more pronounced. For instance, "15-24-year-old African women, on average, are 3.4 times more likely to be infected than their male counterparts" (UNAIDS, 2004:40). In order to determine if any gender roles are involved in these rates, this chapter will thoroughly examine gender as a major indicator of the spread of AIDS, especially among adolescents. The adolescent population of sub-Saharan Africa has grown up in a world with the AIDS virus a part of the fabric of their society, so addressing the most evident precursor of safe sex in order to avoid AIDS and its spread is the use of condoms during sexual intercourse. This chapter will examine a wide range of research studies about the adolescent populations of Africa, but specific attention will be given to the topics of sexual behavior, condom use, condom attitudes, and HIV risk.

Gender and Sexual Behavior

In most sub-Saharan nations, traditional attitudes towards male and female sexual behavior vary from culture to culture, and according to ethnic or religious affiliation (Adegoke, 2001; Brockerhoff and Biddlecom, 1999; Djamba, 1997; Zabin and Kiragu, 1998). Prior research establishes that unmarried adolescents from sub-Saharan Africa are more likely to be sexually experienced than in most comparable countries around the world (UNAIDS, 2004; Zabin and Kiragu, 1998). One assumption for why sub-Saharan Africans are sexually experienced is that their cultural norms dictate marriage and gender interaction at an earlier age than in other countries around the world (Adegoke, 2001; Brockerhoff and Biddlecom, 1999). However, the social environment of modernization in most African cities has created a phenomenon of young girls moving away from the social pressures of marriage and toward furthering their education beyond secondary school (Djamba, 1997; Gorgen et al., 1998; UNAIDS, 2004; Zabin and Kiragu, 1998). Current research argues that girls educated up to or beyond secondary school are more likely use contraception during sex, thus decreasing their risk of contracting HIV (Brockerhoff and Biddlecom, 1999; Hargreaves and Boler, 2006; Gorgen et al., 1998).

Previous literature reveals the average age for first sexual intercourse and sexual activities varies from male to female adolescents, especially among adolescents aged 15-19 (Adegoke, 2001; Kiragu and Zabin, 1993; Mbizvo, Msuya, Hussain, Chirenje, Mbizvo M, Sam, and Stray-Pedersen, 2005). Gorgen et al. (1998) found that among Guinean urban youth, the average age at first sexual intercourse is 16.3 years for females and 15.6 for males. Furthermore, the research suggests that males are twice as sexually experienced (having two more life time sexual partners-4.0) than are sexually

experienced young females (2.1). In a study of premarital sexual activity among school-age adolescents in Kenya, Kiragu and Zabin (1993) suggest that male secondary students are two times more likely to engage in sexual intercourse than are females. Adegoke (2001) cites a study conducted in Benin City that reveals that urban girls achieve maturation earlier than rural girls. Moreover, the study contends that the average age of female puberty among adolescents throughout Africa falls within a general pattern seen in other parts of the world. The study concludes that the timing of menarche is a probable indicator of early intercourse and early pregnancy. Prata et al. (2005) contends that in Angola male adolescents are significantly more likely to have sex before age 15, and they are more knowledgeable about condom usage and pregnancy prevention than are female adolescents.

According to 1997 estimates, the mean age of first sexual experience in Angola among 14- to 20-year-olds is 14.4 for males and 15.9 for females (Prata et al., 2005). Moreover, the average time between first sexual intercourse and marriage for males is five to ten years (Walle 1990), whereas, the time for women is much shorter. Walle cites institutionalized and/or traditional values/attitudes toward sexual contact with women as a possible reason for the large difference in age at first sexual intercourse and marriage among men. Adegoke (2001) examines contemporary African societies where the traditional ideals of sexual behavior present a conflicting paradox for young women: to become a parent or to attain a high-level of education. He attributes the mixed messages females are receiving to the ideal that women must start bearing children at an early age and are expected to do so within the confines of marriage at an early age. However, some researchers argue that the traditional controls on adolescent sexual behavior are

weakening (Adegoke, 2001; Brockerhoff and Biddlecom, 1999; Djamba, 1999; Zabin and Kiragu, 1998). A recent study in Kenya found that 60 percent of the samples do not believe that the traditional norms that restrict sexual behavior (premarital and extramarital) are applicable in modernized countries (Adegoke, 2001; UNAIDS, 2004).

Gender and Contraceptive Use

Sexual behavior patterns between males and females differ based on gender, age, socioeconomic status, and educational level, particularly with regard to sexual knowledge and contraceptive use. According to research by Prata et al. (2005), adolescents in sub-Saharan Africa have only basic information about STIs, HIV/AIDS, pregnancy prevention, and abortion. This is due primarily to exposure to inaccurate information propagated by ethnic and/or widely held rumors and cultural folklore myths.

The Prata et al. study (2005) finds that a large proportion of male respondents indicated they always used condoms with all partners within the prior three months. In addition, in both age groups (15-19 and 20-24) males were more likely to be consistent condom users than were females in the same groups. Among single males and females, males were significantly more likely to report condom usage than were female respondents (19 % vs. 14 %). Prata et al. concludes that only two-fifths of all youths in casual or regular relationships reported condom use at last intercourse. The researchers indicate that both male and female adolescents had a high level of condom knowledge and were willing to use condoms however; one important factor in these rates of knowledge and their willingness to use condoms reflects personal values/attitudes of the adolescents.

Kiragu and Zabin (1993) evaluate the differences between male and female sexual activity: “both hormonal and social influences simultaneously elevate male sexual behavior, whereas coitus among females appears to be influenced to a larger extent by societal expectations” (p. 92). This study among school-age adolescents in Kenya finds that males and females who have positive attitudes towards contraceptives—if they should use them or should or do have access to them—are more likely to be sexually experienced than those who disapprove of such behavior (14 % and 62 %). One explanation for these differences in thought and behavior is the double standard regarding sexual relations and women in Kenya. In Kenya and similar societies, traditional ideals encourage males to be sexually adventurous, but these societies are punitive to such behavior for females. For instance, pregnant girls in most Kenyan schools are expelled from school and have little to no legal recourse for child support.

Gorgen et al. (1998) suggests that unmarried urban youths in Guinea were knowledgeable that condoms would prevent pregnancy (70 %), and 54 % believed that abstinence would prevent unwanted pregnancy. However, one in ten respondents cited ineffective methods of contraception or said they did not know how to prevent pregnancy. Within the study, the authors contend that a large proportion of young people cannot distinguish between effective and ineffective methods of protection. Female respondents in this study attribute the differentiation of effective and ineffective methods of protection to insufficient information, which places them at a greater risk of contracting HIV than their male counterparts. “Young women aged 15-16 are especially at risk because they are encouraged to delay first intercourse and may not learn about modern contraceptive methods until after becoming sexually active” (p. 68). Within the

study, this same age group did not have knowledge about the birth-control pill or condoms; however, more than half the female respondents knew of abstinence. Culturally, many young Guinean women are taught that the best way to prevent pregnancy is to avoid men; and most modern forms of contraceptives are regarded with some level of suspicion because of perceived biological and social side effects such as infertility and encouragement of multiple partners.

In a study of migration and sexual behavior in Kenya, Brockerhoff and Biddlecom (1999) cite that men and women have different agendas with regard to sexual behavior. A study of Kenyans conducted by WHO/GPA indicates that 32 percent of sexually active men and 11 percent of sexually active women had some form of casual sex partner. This included males who may have used a prostitute within a twelve-month period. Interestingly, in Tanzania, about 20 percent of unmarried women had multiple partners as compared to almost one-half of unmarried men. The study attempts to explain possible reasons why more males have multiple partners when compared with females. Brockerhoff and Biddlecom proposed that for males the pursuit of multiple partners is biological (for instance, sexual pleasure and/or their personal drive for sex), whereas for females the pursuit is more financial. Women who work outside of the home as market vendors may also exchange sex for money or become involved in informal prostitution, not only for money but also for raw materials and lodging. The risks involved with having multiple partners are exacerbated for women because of their disadvantage in protecting themselves from diseases by their inability to demand condom use by their male partners regardless or whether the partner is a spouse.

Gender and Condom Attitudes

Attitudes toward condom use differ significantly between males and females. Various research on Africa's adolescent population has described the primary reason for males to use a condom is to prevent pregnancy, whereas females in similar research usually did not ask their sexual partners to use a condom because of fear of abuse or rejection from their sexual partner (Brockerhoff and Biddlecom, 1999; Hansen, Hahn, and Wolkenstein, 1990; Maharaj, 2006). The condom as a contraceptive device serves the dual function of protection against pregnancy and against sexually transmitted diseases (STDs) and HIV/AIDS. However, according to research conducted by Maharaj (2006) South African adolescents aged 15-24 do not perceive this dual protection; instead these adolescents perceive pregnancy as a greater risk than contraction of HIV/AIDS-which kills more individuals in South Africa than any other African country. Contrary to South Africa's HIV seroprevalence estimates among adolescents, South Africa has a considerably high rate of contraceptive use. Although among sexually active women aged 15-24, two-thirds used a modern-form of contraception, only 21 percent of those age 15-19 and 17 percent of those aged 20-24 used condoms. Maharaj explains that in South Africa social and demographic characteristics dictate condom usage, an explanation that may have merit in other African countries. In addition, in face-to-face interviews the author observes that female respondents expressed the amalgamation of contraceptive methods such as hormonal implants and/or sterilization as being the most effective methods of preventing pregnancy. Males in the same study were compared to similar studies conducted on condom use and adolescents males; the males in un-established

relationships were likely to use condoms with more frequency than those men in steady established relationships.

In a study of six hundred and five adolescent females, Okpani and Okpani (2000) assessed the sexual activity and contraceptive use among secondary school girls in Port Harcourt, Nigeria. Similarly comparable to previous studies, the consequences of female sexual activity lead in some cases to violent and/or deadly situations (Brockerhoff and Biddlecom, 1999; Hansen et al, 1990; Maharaj, 2006). According to Okpani and Okpani, young girls bear the brunt of early sexual debut in unwanted pregnancy, sexually transmitted diseases, and induced abortions. Demographically, over fifty-five percent of the respondents were from polygamous families and the majority lived poorly. This study suggested that 72.4 percent of the population was aware of the risk of contracting an STD from sexual activity. However, sexually active respondents used a condom only 6.2 percent of the time in sexual intercourse. Female adolescents would rather rely on periodic abstinence (46.8 %) and withdrawal (10.3 %) to prevent pregnancy instead of using a condom, which has dual prevention advantages from pregnancy and STDs. In addition, the authors are in agreement with other scholars that suggest teenage girls who prefer older male sexual partners (74.2 %) are more likely to gain monetarily from their sexual activity with them than having sex with their peers. In addition, these girls are less likely to suggest that their partner use a condom or to use a form of contraceptive method such as the pill or IUD. This trend of older men exploiting young girls is seen in most developing countries around the world—Nigeria is no exception.

Sunmola, Dipeolu, Babalola, and Otu (2002) conducted a study in the Niger state of Nigeria by examining the understanding of sexual and contraceptive behavior among

adolescents. Analyzing approximately 900 male and female adolescents, they found that one third of the respondents from all socioeconomic status had already had their first sexual experiences. Among those respondents who had already had sexual intercourse 86 percent claimed it occurred between ages 13-20 years old. Sixty-five percent of those with sexual experience said they did not use any form of contraceptive device or method, primarily because they reported not being knowledgeable of any method. In addition, 54.1 percent of the respondents in the same population reported having more than one sexual partner at the time of the study. The authors found that 55 percent of the respondents with more than one sexual partner were registered in school during the survey. The study suggested that males had higher frequencies of sexual intercourse one week prior to the survey (84.4 %) — a majority indicated that they had sexual intercourse at least one to six times a week. Condom use in this population was low (12.5 %) considering that 63.8 percent were knowledgeable about condoms. At the time of the study, only 6.3 percent of the respondents were using condoms and 2.1 percent were using some other form of contraceptive method, most notably pills. Condom knowledge rates are between 37 to 63.8 percent while condom use is between 0.7 to 12.5 percent. Sunmola et al. (2002) posited that the strict cultural disparities that exist among the various ethnic groups of the Niger State that would contribute to low condom use rates. For example, certain groups marry at an earlier age, whereas other ethnic Nigerian groups believe in divine intervention to determine the number of children one receives rather than contraceptive methods. The ethnic differences are jeopardizing the welfare of adolescent health care, especially in terms of the connection between condom knowledge and actual condom use.

Oladepo and Brieger (2000), examine possible gender issues in adolescent reproductive health. The authors documented high school students (both males and females) in Akure, Ondo State of Nigeria. The study presented initial results that suggested that males were more likely to have begun having sex than females, and there were significant differences in respondents who attended co-educational schools versus single gender schools. Of those attending co-educational schools, 40 percent had sex. The participation rate for those at boys-only schools was 19 percent and at girls-only schools was 8.1 percent. Concerning attitudes toward sexual issues, male and female adolescents are influenced by different factors. The authors cite research about Swiss male adolescents who had more positive attitudes towards condoms and had more consistent usage of condoms than did females. They suggests that “female adolescents have been found to be more influenced by family factors and males more by individual factors” (p. 23). Moreover, the authors propose that gender role differences contribute to the development of unhealthy staging of sexual attitudes, particularly toward condom use among females. The authors determine and conclude from the study that one important indicator of gender differences and sexual attitudes is “the cultural environment that is responsible for the early formation of major gender attitudes” (p. 31), which possibly contribute to the disproportionate gender differences in sexual reproductive health.

Gender and HIV/AIDS Risk

According to the UNAIDS 2004 report, the overall population of HIV-positive women has been on a steady incline. The same report details that women living with HIV are 41 percent in 1997, however, the same percentage of women living with HIV rose by 9 percent by 2002. These statistics are found primarily in places where heterosexual sex

is the dominant mode of transmission, in particular in sub-Saharan Africa. UNAIDS argues that the epidemic's 'feminization' is more apparent in sub-Saharan Africa than industrialized countries (UNAIDS, 2004:22). Nearly 57 percent of women are infected annually, and 75 percent of adolescent are infected young women and girls. Among adolescents aged 15 to 24-years-old, young women are the worst affected by the risk of HIV/AIDS. One explanation of this gender factor is that women and girls have a higher biological vulnerability to HIV.

The diagnosis of STDs and HIV/AIDS is much easier in men than in women mainly due to the fact that men present with more identifiable signs and symptoms than women (Middleton, 2008). According to Middleton (2008), the pathology of the HIV/AIDS virus is such that it is harder to detect its growth among women than men. He discusses one hypothesis for women tending to be more vulnerable; women have a longer "window" period than men, (also known as Phase II). Phase II is a period when an infected individual has yet to produce HIV antibodies detectable by laboratory test, resulting in the individual not being HIV-positive (p. 121). Another hypothesis for women's vulnerability to HIV/AIDS is seen in the 2006 UNAIDS's annual report on HIV/AIDS which states that women in sub-Saharan countries are at the greatest risk for HIV/AIDS due to the countries' low economic resources for the disease and for women's health. Low economic resources affect women harder in African societies because women's position in society and their lack of power significantly affects their ability to negotiate safer sexual activity. In most African societies, women are usually left behind in the rural areas while the men of the family seek work in urban areas—in most cases returning home with an STD or HIV/AIDS. However, the twentieth century has seen an

increase of women moving to urban areas either in formal settlements or periurban informal settlements in the hopes for consistent employment (Middleton, 2008).

Regardless of urban or rural settings, sub-Saharan women who are poor and with less-than-primary or no education have fewer options for earning a living and in most cases resort to prostitution, which places them at an even greater risk for HIV/AIDS. With the fear of AIDS increasing throughout Africa, many African men who use prostitutes are seeking out younger and younger girls in the anticipation that they are not infected.

According to Middleton (2008), due to the high orphan rates in many African cities, the number of young girls involved in sex work has increased in larger cities over the years, which supports already mentioned UNAIDS data on recent adolescents' HIV/AIDS rates in many African cities.

CHAPTER THREE

THEORETICAL FRAMEWORK

The HIV infections rates among adolescents in sub-Saharan Africa have risen and will continue to rise without properly implemented policies geared toward the adolescent population. In sub-Saharan Africa, adolescents are faced with both old and new social and health problems. According to the 2005 United Nations report, “130 million youth are illiterate, 200 million live in poverty, and 10 million have HIV” (Khan and Mishra, 2008:1). In the study of sexual behavior in Africa, recent research has been linked to a growing literature that connects “gender-related socialization and power relations to risky sexual behavior” (Varga, 2003:160). This research suggests that adolescent relationship patterns and gender-based differences in sexual decision-making contribute to risky sexual behavior patterns. Adolescent relationships and gender-based differences in sexual decision-making can be considered components of gender stratification. The theory of gender stratification is based upon the examination of the institutional relationship between men and women in terms of economic, social, political, and gender psychodynamics (Collins, Chafetz, Blumberg, Coltrane, and Turner, 1993; Smith, 2002; Wermuth and Monges, 2002). The understanding of adolescent sexual behavior in sub-Saharan Africa requires the construction of a general conceptual model, which can measure empirical data on adolescents from Kenya, Tanzania, and Rwanda.

This chapter analyzes major theoretical perspectives that explain gender differences and the effects of gender on condom use, which can serve as a starting point

for the study of adolescent sexual behavior in Africa. This review is a general overview of gender stratification. I will be, however, confined to the most measurable component of gender stratification—gender-based power and gender roles, which help explore current empirical data on adolescent condom use.

Theoretical Perspectives

Gender stratification provides a comprehensive hypothesis on gender differences and condom use. These explanations can support plausible theoretical perspectives for future research. This broad theoretical approach will examine both Randall Collins and Rae Lesser Blumberg's general theory of gender stratification and, include specific discussion of applicable gender-based power and gender roles issues within sub-Saharan countries.

Overview of Collins Theory of Gender Stratification

Wermuth and Monges (2002) employ Collins' model of gender stratification in developing countries to outline a structural method by which societies can compare and analyze the ways culture and historical circumstances diminish the structural conditions for women. Collins argues in his model of gender stratification in developing countries that militarization has a greater impact on gender stratification than social influences. These types of societies create sharp distinctions between male and female roles, especially in the work environment. Therefore, by extension it explains why these same societies would control female sexuality and societal taboos in order to control women, who are less powerful in households and communities. Wermuth and Monges cite Collins's conceptual tools to examine gender stratification such as "the relationship between technological and material conditions, class structures, the division of labor,

fertility, extent of control exercised over female sexuality” (p. 6). There are possible limitations to Collins’ model but it does provide an idealistic model that could fit into particular categories of gender stratification. Collins makes the general assumption of links between types of societies and types of gender stratification.

Collins et al. (1993) attempts to integrate a comprehensive model around several macro- and micro-theories; the authors utilize a comparative and historical analysis to examine the general theory of gender stratification. The authors believe the theory should illustrate why particular historical events would or will affect possible outcomes for the future. In this attempt to construct a complex theory, Collins and colleagues formulate four blocks of fundamental causal conditions, which comprise a comprehensive theory of gender stratification. Three blocks represent major gender theoretical bases, whereas the fourth block gives an in-depth analysis of background conditions. The blocks are: gender organization of production, gender organization of reproduction, sexual politics, and political economy. For this paper, gender organization of reproduction and sexual politics are most relevant to the discussion of gender differences and condom use.

Gender organization of reproduction emphasizes several theoretical ideas such as demographic conditions, parenting and gender ideologies, and sexual politics, which are relevant in the explanation of gender differences and condom use. One key factor of gender organization is reproductive labor within the framework of demographic conditions, which was formulated by Huber and Spitze (1983) (Collins et.al 1993). The authors argued that environmental conditions impact the level of health care and technology in countries where there is a high social demand for a high birth rate. This belief underscores that women in these countries are becoming pregnant early or lactating

longer; a pattern which supports Blumberg's citation of Firestone's argument that women fall to the mercy of their biology rather than their economics—"menstruation, menopause, and 'female ills,' constant painful childbirth, wetnursing, and care of infants, all of which made them dependent on males...for physical survival" (Blumberg, 1984:31).

A second key factor is demographic and technological conditions both of which enhance and disrupt social arrangements such as pregnancy and child-rearing and have become problematic for women in the twentieth century. For instance, the technologies of birth control create obstacles for the gender segregation of labor. Women in the twentieth century find themselves within a dichotomy of choices, career or childbirth. However, in developing countries, young women are faced with the dichotomy of furthering their education or early marriage (Adegoke, 2001; Collins et al., 1993; Djamba, 1997; Zabin and Kiragu, 1998). Ampofo, Beoku-Betts, Njambi, and Osirim (2004), argue that specific attention has been given to the issues facing young girls in secondary school. The authors suggest that young girls in Africa are faced with early marriage, teenage pregnancy, home and agricultural responsibilities, and "the feminization of certain forms of employment, and potential unemployment" (p. 697).

The final component of organization of reproduction is sexual politics. Sexual politics is prominent in tribal societies or in countries found in sub-Saharan Africa—e.g. Kenya, Tanzania, and Rwanda. Collins and colleagues believe that these societies portray a situation where the "state monopolizes organized violence" (p. 197), including sexual aggression such as rape, family abuse, and harassment. This can be found in such countries as Rwanda, where years after genocide and civil war, women are still in

significant danger. The authors argue that these sexual aggressions are linked to the continuous economic suppression of women. For example, sexual alliance politics is defined as the exchange of sexuality for social ties and/or social goods (i.e. money, protection, housing, and so forth) and this is more prevalent among younger girls in Africa. Historically, the kinship structures in most African societies support sexual alliance politics primarily because sexuality is considered as exchangeable property. The kinship dictates the control over sexuality, not the individual. In sub-Saharan Africa, the kinship structure is very prominent in rural areas of most countries; however, with migration as a large factor in population shifts from rural to urban areas, these same kinship structures find themselves in the urban environment by way of the rural migration.

Overview of Blumberg's Theory of Gender Stratification

Blumberg (1984) intends her theory of gender stratification "to have broad cross-cultural and historical application" (p. 25). This is seen in Blumberg's hypothesis that power determines women's privilege in gender stratification. She argues that power exists in several capacities such as power of physical force and coercion, political power, economic power, and power over ideology as reflected in norms and ideas. Blumberg emphasizes her model as structural, but stresses the importance of economic power and the relationship to forms of power. Economic power determines gender-based privilege in society because other forms of power are not as associated with privilege as is economics. Blumberg views economic power coming from several structural conditions, each providing a degree of control over production and distribution of goods. She identifies three sources of economic power, which are relevant for an overview of gender

stratification: paid employment, inheritance patterns within a kinship group, and technical expertise in the traditional division of labor.

Blumberg argues that each source of economic power contributes to the group's overall ability to increase their privilege in society. This privilege is reflected in the degree of autonomy exercised in a number of micro and macro life option situations such as fertility and sexual activity. She predicts that the greater the level of their economic power, the greater will be individuals' autonomy or choices among life options. For example, if females or males gain economic power through education, then they are predicted to have greater chances for better employment, health care, housing, and life options.

Gender-based Power

Blanc (2001) defines gender-based power in a sexual relationship as "the relative ability of one partner to act independently, to dominate decision-making, to engage in behavior against the other partner's wishes, or to control a partner's actions" (p.189). She emphasizes that absolute power is not the focus; rather, she stresses the importance of the comparative influence of each partner relative to the other. The general term "gender" refers to the expectations and norms associated with socially acceptable male and female behavior, characteristics, and roles. Blanc argues that gender-based power in sexual relationships is frequently unbalanced and that women usually have less power. Additionally, these imbalances are in the context of a universal sexual double standard that gives men greater sexual freedom and rights than women.

Blanc argues that gender-based power in sexual relationships operates in the context of power imbalances based on Collins' and Blumberg's theories of gender

stratification, which includes the imbalance of economic or political power. Her analysis also includes the influence of family, community, and peers on reproductive and sexual health. An important factor in Blanc's argument is her inclusion of a micro level approach that examines the power balance within sexual relationships and how those influences contribute to an individual's access to and use of reproductive health services (i.e. testing for HIV/ STDs or access to female or male condoms). Blanc (2001) views the balance of power within a sexual relationship and its link to sexual and reproductive health in three ways: "(1) directly; (2) through its relationship with violence between partners; and (3) through its influence on the use of health services" (p. 190). Both the "direct" and "influence on the use of health services" are areas of great importance to understanding gender differences and condom use in sub-Saharan Africa, where more women are infected than men. Gage (1998) argues that economic and social inequalities and age disparities between sexual partners usually create circumstances of unequal power that is evident within the relationship. This reduces negotiating power for women and increases the potential for male violence.

Gage (1998) examines gender differences in the decision-making process and contraceptive use and suggests that in some societies—especially those in sub-Saharan Africa, "social norms may define 'a good woman' as being one ignorant of sex or passive in sexual encounters, whereas 'a real man' may be defined as being sexually experienced and not necessarily limited to one partner" (p.156). She also contends that the socialization of young girls/women in some societies will give priority to male pleasure and sexual control within the relationship, which can contribute to young women's inability to negotiate the occurrence of sex and whether condoms will be used. This

socialization of young girls can lead to sexual coercion by older men. Specifically, these older men are motivated to assert power over women and/or in some cases motivated to “intimidate girls from attending school, thereby preventing them from access to and control of assets that may pose a threat to gender relations” (pp.163-4).

Additionally, Blanc argues that gender-based power relations can have a direct influence on the ability of the partners to acquire accurate information on their reproductive health, their ability to make sound decisions regarding their health, and their ability to protect or improve their health. For example, the direct component influences the ability of women to negotiate condom use with their partners. Blanc predicts that health services can act as a mediating factor to women who are relatively powerless in a sexual relationship; health services can intervene to improve her ability to acquire information and promote her own health. On the contrary, Blanc argues, health services that encourage power imbalance between partners can contribute to a decrease in women’s ability to promote their own health and further continue the stratification of women, especially in the developing world.

Gender Roles

Adolescence is a period of development when biological, physical, cognitive, and social traits mature from childhood to adulthood. This stage is greatly influenced by gender-specific behaviors, attitudes, and dispositional life options through the life long process of socialization that perpetuates gender-based decision-making toward sexual behavior. Some scholars would argue that socialization of gender roles affects gender stratification by way of processed interaction with mother and father, which affects the personalities and the cultural roles from childhood to adulthood. This approach derives

mainly from the work of Charlotte Perkins Gilman. Her work led to the formulation of feminist thought and others who reflect on Gilman's argument of gender in order to form plausible explanations for gender roles and behaviors.

Collins et al. (1993) argue the Neo-Freudian theory. For example, young girls and boys have distinctive orientations towards the world. Because a person of the same sex usually socializes girls, it encourages their behavior to be more "participatory and nurturing" (p. 196). Young boys, however, break away from their mothers at an early age and acquire an orientation towards separateness, which stresses "cognitive objectivity, achievement, and competition rather than social participation" (p. 196). There is great debate on whether these gender differences are rooted in genetics, childhood experiences, or social experiences. Collins et al., raises Carol Gilligan's (1982) classic argument that suggests some gender differences exist in moral reasoning, as well as her more consistent finding of gender differences in mathematics and visual abilities. Despite significantly predating Gilligan's 1982 study, Gilman's work suggested that gender differences are rooted in childhood and evolutionary development. She argued that men and women lived in separate universes or worlds (Tucker, 2002). Her notion of the differences in boys and girls' socialization experience emphasizes the strict distinctiveness for boys being more aggressive and rational and for girls being more emotional and nurturing. Tucker (2002) cites Gilman's own words, "main avenues of life are marked 'male'" (p.243). According to Gilman, females construct and build culture and relationships which are neglected in the modern society: "the constructive tendency is essentially feminine; the destructive masculine" (Tucker, 2002:243).

Collins and his colleagues argue that gender differences have lasting effects on children, especially when there is a low participation by fathers in the childrearing process. The authors address two possible explanations to low participation of fathers. The macro level perspective suggests that low participation by fathers is affecting gender socialization; and the micro level perspective argues that a lack of fathers is affecting proper gender interactions, stereotypes, and most importantly, cognitive and emotional styles among boys and girls. Collins et al. (1993) raise two important factors from these macro and micro perspectives, the socialization of these customs (learning gender roles as a child) and the negotiation of gender spheres (learning gender interactions as an adult).

In terms of sexual behavior and gender roles, Gage (1998) examines possible influences of gender roles on male and female decision-making process toward contraceptive use. Most importantly the ideologies of masculinity and femininity shape the powerful dynamics of adolescent sexual encounters in adulthood. Through the behavior of men and women, cultural norms may govern women's influence in negotiating condom use, and as well as costs and sexual benefits to women initiating sexual and reproductive decisions even within an established relationship. According to Gage (1998), adolescent decision-making process is socially interactive and oftentimes defined in terms of men's needs, especially in culturally based gender roles that reinforce male control over sexual and reproductive decision-making. Gage suggests that the socialization of boys and girls has a profound impact on the power balance structure in adolescent sexual relationships, and on preparing young women to accept male dominance in sexual encounters. In addition, to normal family socialization, Gage

contends that religious norms socialize girls to subordinate their sexual decisions. Societies where culture-based gender roles exist, like those in sub-Saharan Africa, decrease women's ability to make decisions toward condom and contraceptive use, and increase their vulnerability to the risk of STDs and HIV/AIDS.

Based in the above-discussed theoretical traditions, I anticipate that the economic circumstance and social status of sub-Saharan women will impact their choice to use a condom during sexual encounters. As stated previously, reproductive and sexual behaviors involve more than cost of contraception. Rather, it includes socialization of the sexes, in addition to social, cultural, and religious norms, and at times personal beliefs, that impact contraceptive use. The broad understanding of gender stratification is based on the power struggle women face against various forms. However, I can predict that power struggle greatly impacts adolescent girls' ability to use contraception either in an established or non-established relationship. Women of sub-Saharan Africa are more likely than women in other parts of the world to be socialized to be passive in their sexual desires and choices whereas men are socialized to initiate sexual encounters. In addition, these norms reinforce the male's right over the female's body and her decision toward the use of contraception and/or reproductive choice such as abortion or pregnancy. For example, in many African cultures, young girls may have a difficult time refusing the advances of an older man; however, young boys who are newly circumcised are usually encouraged to test their manhood through sexual conquest (Middleton, 2008).

This study reveals the broad understanding of gender stratification and sexual behavior, particularly the impact of gender-based power and gender roles on adolescents, especially women in sub-Saharan Africa. More research is needed to provide statistical

linkage between various components of sexual and reproductive decisions and the influence of social and cultural norms on adolescent sexual behavior and consistent condom use and contraceptive use. Greater attention must be given to gender based structural barriers to disease prevention including health providers' attitudes toward adolescent sexuality, health service location, biased treatment against women, and most importantly, providers' impact on adolescents' ability to make decisions about sexual and reproductive health issues which are ruled by social and cultural norms.

Aims and Scope

Based on previously published literature my hypotheses are as follows: (1) adolescent males will demonstrate more condom use at both first and last sexual intercourse than will adolescent females; and (2) will the level of education impact condom use at either first or last sexual intercourse among both male and female adolescents, particularly adolescent females. I expect that gender differences in terms of condom use have significant influence on the sexual behavior patterns of young unmarried urban adolescents, particularly young women. According to UNAIDS and WHO reports, all three targeted countries have illustrated high rates of HIV and STD prevalence rates among adolescents aged 15-24 and I anticipate that this study will suggest possible links to condom use at first and last sexual intercourse. Recent HIV statistics suggest there are considerable gender disparities in infection rates in Africa: "13 percent seroprevalence among men, compared with 18 percent among women" (Varga, 2003). Thus first, this study anticipates that adolescent males will use contraceptives with greater frequency than will adolescent females, possibly demonstrating gender disparities existing within these countries, which may reinforce the contribution of gender-based

power and gender-specific roles as related to women's sexual and reproductive health.

This possible difference between the sexes may be the precursor to why women are more vulnerable to HIV/AIDS and STDs than are men (Blanc, 2001). Second, this paper will examine possible existing gender differences and condom usage statistically to explain the link between education levels of adolescents' and their consistent condom use from their first sexual intercourse to their more recent sexual experience. Countless studies have suggested that adolescents are knowledgeable about sexual reproductive and health issues such as condom use and that condom use helps prevent HIV and STDs but the disparity between the knowledge about and actual use of a condom in sexual encounters is staggering (Adegoke, 2001; Ampofo et al., 2004; Brockerhoff and Biddlecom, 1999; Djamba, 1997; Gorgen et al., 1998; Hargreaves and Boler, 2006; UNAIDS, 2004; Varga, 2003; Zabin and Kiragu, 1998).

CHAPTER FOUR

RESULTS*Data*

Data used for this study are from the 2003 and 2005 Kenyan, Tanzanian, and Rwandan Demographic and Health Survey (DHS) of reproductive age men and women (15 to 24). The Demographic and Health Survey program is funded primarily by the United Nations Agency for International Development (UNAIDS), which collects and provides data on the population, health, and nutrition of women and their children in developing countries. Data were collected and distributed with the permission of DHS for the years 2003 and 2005. This data includes information about reproductive behaviors, contraception, and socioeconomic background.

Sample

The Demographic and Health Survey, a nationally representative survey, uses a three-stage, self-weighted, community-based, cluster sampling design to select men and women and households for interview. The sample for this study consists of never-married adolescent men and women, (aged 15-24) living in urban areas in the above referenced countries, who were sexually active in the last four weeks prior to the survey. The sample size for each country is as follows: Kenya – N=1005 (255 males/750 females), Tanzania – N=950 (233 males/717 females), and Rwanda – N=1485 (444 males/1041 females). The variables in the DHS survey represent an unprecedented opportunity to examine gender differences in condom use among adolescents of these countries. Focusing on sexually active respondents is important to the examination of condom use among adolescents.

Dependent Variables

Condom use is measured by two variables: condom use (1) first sexual intercourse and (2) last sexual intercourse. Condom use at first and last sexual intercourse is measured by respondents response to “condom used at first intercourse” and “last intercourse used condom,” response options for both items were “No” (coded 0) and “Yes” (coded 1). Each DHS country survey mentioned above was evaluated and measured separately by gender. According to DHS, “Last intercourse used condom” is based on the AIDS module, which collects information of sexual intercourse in the last 12 months for both males and females. All percentages for condom use equal 100 percent.

Independent Variables

This study examines gender differences in condom use while controlling for social and other demographic characteristics of respondents. These controlled social and demographic characteristics are examined using five variables. Age is measured in years, ranging from 15-24. Highest education level is divided into four categories: no education, primary, secondary, and higher education. DHS does not define these categories equivalent to American educational terms. For the current model, this variable is defined in the following way: no education is self-explanatory; primary is grades 1-6; secondary in grades 7-11; and higher grades in 12 and above. However, each survey follows DHS standards for coding for each country, coded as 0 for no education, coded 1 for primary, coded 2 for secondary, and coded 3 for higher.

Religion is measured on a four-point scale according to the most dominant religions for each country, coded as 1 to 4, those with the largest religious population as 1 and those with no and/or other religious affiliation as 4. The following religious affiliations are present in the data: Catholics, Christians, Seventh-day Adventists, Muslims, and other and/or no religious affiliation. Wealth index is measured on a five-point scale according to DHS standards, coded as 1 when the respondents are the poorest, 2 for poorer, 3 for middle, 4 for richer, and 5 for richest.

The wealth index is based on the respondents' self-perceived consideration of wealth compared to others whom they know or in the general sense; however, the categories are pre-determined by DHS.

Finally, recent sexual activity is measured on two-point scale, coded as 1 when the respondents were sexually active in the last four weeks prior to the survey and coded as 0 when they are not sexually active.

Analytic Technique

Using Statistical Package Social Science (SPSS) 16.0., I apply two analytical strategies to assess the hypotheses. First, frequencies are used to describe the social and demographic characteristics of the sample for each country. Second, a cross-tabulation model is applied to analyze condom use at both first and last sexual intercourse respondents' used a condom by each independent variable. Third, for separate models for males and females, I use logistic regression that is to calculate the odds that adolescents in each country will use condoms at either first and last sexual intercourse given by a set of variables (gender, age, religion, wealth index, and recent sexual activity). This study

will specifically examine the association between education and condom use either at first and/or last sexual intercourse.

Results

Kenya

Social and demographic characteristics

Table 1 presents the frequencies of the social and demographic characteristics for both male and female unmarried adolescents living in the urban areas of Kenya. The median age for adolescent population is 20 years old for both males and females. In terms of education, adolescent males had more education than adolescent females. A majority of the adolescent population reports some type of religious affiliation: Christianity (62%-women, 52%-men); Roman Catholics (34%-men, 24%-women); while approximately 10 percent of both males and females report no religion and/or have other religious affiliations. Eighty-two percent of women and 78% of men identify themselves to be among the “richest” tier of wealth status. Finally, adolescent males are more likely to report being sexually active (30%) than are adolescent females (6%).

Table 1. Percentage Distribution of the Study Sample: Female/Male Adolescents in Kenya (2003)

Characteristic	Kenya	
	Women	Men
N=	48	77
Age		
15-19	55.6	33.7
20-24	44.4	66.3
Level of Education		
No education	5.2	2.4
Primary	44.5	42.4
Secondary	37.2	38.0
Higher +	13.1	17.3
Religious Affiliation		
Catholic	24.3	34.1
Protestant	62.3	51.8
Muslim	12.4	10.6
Seventh-day Adventist		
None or Other	0.9	3.5
Wealth index		
Poorest	1.9	1.2
Poorer	2.9	3.1
Middle	4.3	3.9
Richer	9.2	13.3
Richest	81.7	78.4
Recent Sexual Activity		
Active	6.4	30.2
Not Active	29.7	69.8
Total	100.0*	100.0*

*Note: the total percentage is due to rounding

Cross-tabulation

Table 2 represents a cross-tabulation analysis of the dependent variables of condom use at first and last sexual intercourse with characteristics of Kenyan adolescents. Kenyan females were more likely to report condom use at first sexual intercourse than Kenyan males, while adolescent males were significantly more likely to report condom use at last sexual intercourse than were adolescent females. Both males and females with secondary education were more likely to report condom use at first and last sexual intercourse than were those with only primary education. Moreover, male respondents with more than 12 years of education were more likely than their female counterparts to report condom use at last intercourse. Protestant adolescents (male and female) were more likely to report condom use at first (26 %-women, 21 %-men) and last intercourse (35 %-women, 60 %-men) than Catholic adolescents. Female Muslim adolescents were more likely to report condom use at first sexual intercourse than male Muslims (30 %-women, 19 %-men). Adolescents who identified themselves among the “richest” wealth status were more likely to report condom use at first (28 %-women, 23 %-men) and last sexual intercourse (36 %-women, 64 %-men) than those of “poorest” wealth index. Of those respondents who were sexually active in the last four weeks prior to the survey, less than half of reported condom use at first and last sexual intercourse (41 and 37, respectively). Interestingly, males who were sexually active in the last four weeks of the survey were significantly less likely to report condom use at first intercourse (14%) versus last intercourse (56%).

Table 2. Cross-Tabulation Percentage of Female/Male Adolescents Condom Use at First and Last Sexual Intercourse by Socio-Demographic Characteristics, Kenya (2003)

Characteristic	First Sexual Intercourse		Last Sexual Intercourse	
	Women	Men	Women	Men
N=	48	77	48	77
Age				
15-19	25.2	16.3	28.4	50.0
20-24	25.8	25.0	35.5	65.1
Level of Education				
No education	0	16.7	---	60.0
Primary	18.1	13.0	21.8	47.8
Secondary	30.6	24.0	38.2	66.7
Higher +	42.5	40.9	51.7	80.0
Religious Affiliation				
Catholic	24.7	25.3	27.3	59.2
Protestant	26.0	21.4	35.2	60.2
Muslim	30.0	18.5	33.3	68.2
Seventh-day Adventist				
None or Other	0	12.5	0	48.9
Wealth index				
Poorest	0	33.3	0	0
Poorer	0	12.5	0	66.7
Middle	0	30.0	0	70.0
Richer	19.2	14.7	18.8	37.0
Richest	28.0	23.1	35.6	63.8
Recent Sexual Activity				
Active	41.3	14.5	37.5	55.8
Not Active	23.6	25.3	33.1	62.9

Logistic Regression

Table 3A presents logistic regression analyses for Kenyan females. Results indicate that being sexually active within four weeks of the survey significantly increases the odds of condom use at first intercourse ($\exp(B) = 2.105$, $p \leq 0.03$). Moreover, having 12 years or more of education significantly increases the odds of condom use at first and last sexual intercourse ($\exp(B) = 1.8$, $p \leq 0.002$; $\exp(B) = 1.8$; $p \leq 0.008$, respectively). According to the Nagelkerke R Square, the current model explains 13 percent of the variation in condom use at both first and last sexual intercourse of the female adolescent population of Kenya (0.134-first, 0.128-last).

Table 3A. Odds of Condom Use at First and Last Sexual Intercourse: All Female Adolescents in Kenya (2003)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	1.797***	1.821 ***
Religious Affiliation		
Catholic	1.140	2.420
Protestant	1.163	3.034
Muslim	2.728	7.283
Wealth index		
Poorest	0.000	0.000
Poorer	0.000	0.000
Middle	0.000	0.000
Richer	0.643	0.545
Recent Sexual Activity		
Active	2.105 *	1.177
Constant	0.000	0.000
Model Chi-Square	29.214***	17.734 **
Negelkerke R Square	0.134	0.128
Number of Cases	48	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

Table 3B presents logistic regression analyses for Kenyan males. Similar to the female model in Table 3A, results indicate that having 12 years or more education significantly increases the odds of condom use at first and last sexual intercourse ($\exp(B) = 2.2, p \leq 0.000$; $\exp(B) = 2.0, p \leq 0.002$), respectively). Those respondents who identified themselves with the “richer” wealth index were significantly more likely to use a condom at last sexual intercourse than those who identify themselves as having “poorest” wealth status ($\exp(B) = 0.059, p \leq 0.421$). According to the Nagelkerke R Square, the current model explains 12 percent of the variation in condom use at first sexual intercourse and 15 percent at last sexual intercourse of the male adolescent population of Kenya (0.119-first, 0.145-last).

Table 3B. Odds of Condom Use at First and Last Sexual Intercourse: All Male Adolescents in Kenya (2003)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	2.220 ***	1.975 ***
Religious Affiliation		
Catholic	1.613	1.545
Protestant	1.143	1.651
Muslim	1.466	3.833
Wealth index		
Poorest	2.755	0.000
Poorer	0.690	1.849
Middle	2.519	1.951
Richer	0.983	0.421 *
Recent Sexual Activity		
Active	0.526	0.829
Constant	0.000	0.343
Model Chi-Square	20.550 **	21.927 ***
Nagelkerke R Square	0.119	0.145
Number of Cases	77	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

*Tanzania**Social and demographic characteristics*

Table 4 presents the frequencies of the social and demographic characteristics for both male and female unmarried adolescents living in the urban areas of Tanzania. As Table 4 shows, the median age for the adolescent population is 16 years old for both males and females. In terms of education, adolescent females were more likely to have secondary education than adolescent males (36 %-women, 32 %-men). The majority of respondents report some type of religious affiliation: Muslim (56 %-women, 58 %-men); Catholic (25 %-women, 22 %-men); Protestant (20 %-women, 18 %-men); while less than 2 percent of both males and females report no religion and/or have other religious affiliation. Seventy-six percent of women and 68 % of men identified themselves to be among the “richest” tier of wealth status. Finally, adolescent males are slightly more likely to report being sexually active (14 %) than are adolescent females (13 %).

Table 4. Percentage Distribution of the Study Sample: Female/Male Adolescents in Tanzania (2003)

Characteristic	Tanzania	
	Women	Men
N=	95	32
Age		
15-19	67.4	62.7
20-24	32.6	37.6
Level of Education		
No education	5.7	3.4
Primary	55.2	62.7
Secondary	35.7	32.2
Higher +	1.7	3.3
Religious Affiliation		
Catholic	24.5	22.3
Protestant	19.5	18.0
Muslim	55.6	58.4
Seventh-day Adventist		
None or Other	0.2	1.3
Wealth index		
Poorest	2.2	1.7
Poorer	2.1	3.4
Middle	4.6	7.3
Richer	15.6	19.3
Richest	75.5	68.2
Recent Sexual Activity		
Active	13.2	13.7
Not Active	21.1	39.1
Total	100.0*	100.0*

*Note: the total percentage is due to rounding

Cross-tabulation

Table 5 represents a cross-tabulation analysis of the dependent variables of condom use at first and last sexual intercourse by characteristics of Tanzanian adolescents. Both males and females with primary education were more likely to report condom use at first and last sexual intercourse than were those with no education. However, females with higher education were less likely than their male counterparts to report condom use at first and last sexual intercourse. Female adolescents with some type of religious affiliation were more likely to report condom use at first sexual intercourse while their male counterparts were more likely to report condom use at last sexual intercourse. Adolescents (male and female) who identified themselves as “richest” were more likely to report condom use at first and last sexual intercourse than those respondents who identified as “poorest”. However, male respondents in the “richest” wealth index were more likely to report condom use at both first and last sexual intercourse (54 %-first, 67 %-last) than were female respondents (46 %-first, 40 %-last). Finally, among those respondents who were sexually active in the last four weeks prior to the survey, male respondents were more likely to report condom use at both first and last sexual intercourse than their female counterparts.

Table 4. Cross-Tabulation Percentage of Female/Male Adolescents Condom Use at First and Last Sexual Intercourse by Socio-Demographic Characteristics, Tanzania (2003)

Characteristic	First Sexual Intercourse		Last Sexual Intercourse	
	Women	Men	Women	Men
N=	95	32	95	32
Age				
15-19	52.5	28.8	54.0	55.2
20-24	34.1	37.1	46.2	67.9
Level of Education				
No education	33.3	0	40.0	33.3
Primary	43.4	31.0	45.1	63.3
Secondary	48.5	38.7	67.9	63.2
Higher +	36.4	100.0	42.9	100.0
Religious Affiliation				
Catholic	45.7	46.9	48.6	70.8
Protestant	50.0	32.0	63.4	68.8
Muslim	39.7	29.0	46.7	59.5
Seventh-day Adventist				
None or Other	0	0	0	33.3
Wealth index				
Poorest	28.6	0	40.0	0
Poorer	60.0	0	25.0	100.0
Middle	43.8	11.1	40.0	57.1
Richer	33.3	21.4	38.7	54.5
Richest	45.8	40.4	54.3	67.2
Recent Sexual Activity				
Active	41.1	28.1	50.5	71.9
Not Active	49.0	35.6	55.5	58.5

Logistic Regression

Table 6A presents logistic regression analyses of Tanzanian females. Results suggest that having 12 years or more of education significantly increases the odds of condom use at last sexual intercourse for Tanzanian females ($\exp(B) = 1.6, p \leq 0.050$). None of the other independent variables significantly influence condom use at first and last sexual intercourse. According to the Nagelkerke R Square, the current model explains only 3 percent of the variation in condom use at first sexual intercourse, and 8 percent at last sexual intercourse for Tanzania adolescent females (0.034-first, 0.078-last), which suggests other variables are influencing condom use at first and last sexual intercourse.

Table 6A. Odds of Condom Use at First and Last Sexual Intercourse: All Female Adolescents in Tanzania (2003)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	1.066	1.605 *
Religious Affiliation		
Catholic	1.388	1.610
Protestant	1.565	3.178
Muslim	1.027	1.695
Wealth index		
Poorest	0.465	0.650
Poorer	2.010	0.336
Middle	1.081	0.701
Richer	0.587	0.547
Recent Sexual Activity		
Active	0.894	1.196
Constant	0.000	0.000
Model Chi-Square	7.029	13.268
Nagelkerke R Square	0.034	0.078
Number of Cases	95	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

Table 6B presents logistic regression analyses of Tanzanian males. Results of the male Tanzanian model suggests that being sexually active within the last four weeks of the survey is the only variable that significantly affects condom use. Specifically, being sexually active within the last four weeks of the survey significantly increases the odds of condom use at last sexual intercourse ($\exp(B) = 3.5$, $p \leq 0.041$). Additionally, no other independent variables have significant impact on condom use at first and last sexual intercourse. However, according to the Nagelkerke R Square, this model explains 17 percent of the variation in condom use at first sexual intercourse and 18 percent at last sexual intercourse for Tanzania adolescent males (0.167-first, 0.180-last).

Table 6B. Odds of Condom Use at First and Last Sexual Intercourse: All Male Adolescents in Tanzania (2003)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	1.760	1.418
Religious Affiliation		
Catholic	2.145	2.726
Protestant	1.112	2.169
Muslim	1.011	1.477
Wealth index		
Poorest	0.000	0.000
Poorer	0.000	4.362
Middle	0.253	0.622
Richer	0.456	0.362
Recent Sexual Activity		
Active	0.952	3.458 *
Constant	0.000	0.511
Model Chi-Square	15.616 **	11.960
Nagelkerke R Square	0.167	0.180
Number of Cases	32	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

*Rwanda**Social and demographic characteristics*

Table 7 presents the frequencies of the social and demographic characteristics for both male and female unmarried adolescents living in the urban areas of Rwanda. The median age is 20 for males and 18 for females. In terms of education, adolescent females are more educated than are adolescent males. A majority of adolescents report some type of religious affiliation: Catholic (35 %-women, 47 %-men); Protestant (43 %-women, 33 %-men); Seventh-day Adventist (16 %-women, 13 %-men); Muslim (5 %-women, 5 %-men); while less than 3 percent of both males and females report no religion and/or have other religious affiliation. Sixty-nine percent of women and 67 percent of men identify themselves to be among the “richest” tier of wealth status. Finally, adolescent females are slightly more likely to report being sexually active within the last four weeks of survey (8 %) than do adolescent males (7 %).

Table 7. Percentage Distribution of the Study Sample: Female/Male Adolescents in Rwanda (2005)

Characteristic	Rwanda	
	Women	Men
N=	15	12
Age		
15-19	61.1	48.0
20-24	38.9	52.0
Level of Education		
No education	6.7	6.3
Primary	65.4	70.9
Secondary	26.0	21.6
Higher +	1.8	1.1
Religious Affiliation		
Catholic	35.0	46.6
Protestant	42.6	32.9
Muslim	5.3	5.2
Seventh-day Adventist	15.5	13.3
None or Other	1.4	1.8
Wealth index		
Poorest	5.1	5.4
Poorer	7.1	3.6
Middle	7.5	8.3
Richer	11.1	15.5
Richest	69.2	67.1
Recent Sexual Activity		
Active	1.4	2.7
Not Active	15.9	38.7
Total	100.0*	100.0*

*Note: the total percentage is due to rounding

Cross-tabulation

Table 8 shows the cross-tabulation analysis of the dependent variables of condom use at first and last sexual intercourse by characteristics of Rwanda adolescents. Both males and females with primary education were more likely to report condom use at first and last sexual intercourse than those with no education. Moreover, female respondents with higher education were more likely than their male counterparts to report condom use at last sexual intercourse. Adolescent males with some type of religious affiliation were more likely to report condom use at last sexual intercourse than at first sexual intercourse. Adolescents who identified themselves as the “richest” wealth tier were more likely to report condom use at first and last sexual intercourse. However, male respondents in the “richest” wealth index were significantly more likely to report condom use at last sexual intercourse (72 %) than female respondents. Males who were sexually active in the last four weeks prior to the survey were more likely to report condom use at last sexual intercourse than were their female counterparts (83%-versus 8%).

Table 8. Cross-Tabulation Percentage of Female/Male Adolescents Condom Use at First and Last Sexual Intercourse by Socio-Demographic Characteristics, Rwanda (2005)

Characteristic	First Sexual Intercourse		Last Sexual Intercourse	
	Women	Men	Women	Men
N=	15	12	15	12
Age				
15-19	30.1	14.8	41.7	61.5
20-24	31.1	32.6	38.0	66.7
Level of Education				
No education	14.3	0	22.2	50.0
Primary	28.6	28.0	37.5	55.5
Secondary	40.3	31.1	46.4	85.0
Higher +	25.0	33.3	100.0	100.0
Religious Affiliation				
Catholic	31.9	30.4	37.5	64.3
Protestant	28.8	37.1	44.4	58.8
Muslim	33.3	25.0	55.6	85.7
Seventh-day Adventist	33.3	20.7	16.7	63.6
None or Other	33.3	33.3	0	100.0
Wealth index				
Poorest	0	22.2	0	66.7
Poorer	20.0	0	33.3	---
Middle	20.0	16.7	0	33.3
Richer	22.7	20.8	25.0	20.0
Richest	34.9	30.4	46.0	71.7
Recent Sexual Activity				
Active	7.1	8.3	6.7	88.3
Not Active	35.2	28.7	53.2	61.5

Logistic Regression

Table 9A presents logistic regression analysis of Rwandan females. Results show that being sexually active within four weeks of the survey significantly increases the odds of condom use at last sexual intercourse ($\exp(B) = 0.112$, $p \leq 0.046$, respectively). The other independent variables do not significantly influence condom use at first or last sexual intercourse. Nagelkerke R Square suggests, the current model explains 11 percent of the variation on condom use at first sexual intercourse and 28 percent at last sexual intercourse for the female adolescent population of Rwanda (0.110-first, 0.276-last).

Table 9A. Odds of Condom Use at First and Last Sexual Intercourse: All Female Adolescents in Rwanda (2005)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	1.450	1.402
Religious Affiliation		
Catholic	0.316	1.539
Protestant	0.263	2.138
Muslim	0.265	2.677
Seventh-day	0.359	4.799
Wealth index		
Poorest	0.000	0.000
Poorer	0.505	0.743
Middle	0.547	0.000
Richer	0.643	0.496
Recent Sexual Activity		
Active	0.126	0.112 *
Constant	1.211	0.000
Model Chi-Square	18.163**	19.397 **
Nagelkerke R Square	0.110	0.276
Number of Cases	15	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

Table 9B presents logistic regression analysis of Rwandan males. Table 9B indicates that, although not significant having 12 years or more education increases the odds of condom use at first and last sexual intercourse for Rwandan males (exp (B) = 1.4, $p \leq 0.320$; exp (B) = 2.8, $p \leq 0.103$), respectively). One explanation for the lack of significant influence of education and other variables on condom use at both first and last sexual intercourse could be the small number of cases of adolescent respondents who were sexually active, 27. Nagelkerke R Square suggests, this model represents 9 percent of the variation in condom use at first sexual intercourse and 30 percent at last sexual intercourse for the male adolescent population of Rwanda (0.086-first, 0.297-last).

Table 9B. Odds of Condom Use at First and Last Sexual Intercourse: All Male Adolescents in Rwanda (2005)

Characteristic	First Sexual Intercourse Odds	Last Sexual Intercourse Odds
Education	1.379	2.769
Religious Affiliation		
Catholic	1.501	0.807
Protestant	1.355	0.853
Muslim	0.990	4.090
Seventh-day	-----	-----
Wealth index		
Poorest	0.678	1.718
Poorer	0.000	-----
Middle	0.414	0.461
Richer	0.667	0.088
Recent Sexual Activity		
Active	0.126	6.173
Constant	0.237	0.472
Model Chi-Square	10.944	15.283 **
Nagelkerke R Square	0.086	0.297
Number of Cases	12	

Notes: Levels of significance for the corresponding Chi-Square values are:

* $p \leq 0.05$

*** $p \leq 0.001$

CHAPTER FIVE

DISCUSSION AND CONCLUSION

The foundation for sexual behavior and gender relations is laid very early in an adolescent's life, and largely shapes the transition from adolescence to adulthood. Within the era of AIDS, adolescents are faced with new challenges and risks never faced before by any other population (Adegoke, 2001; UNAIDS, 2004). The results of this study suggest that two factors are present in my measurement of condom use at both first and last sexual intercourse, and that these associations vary by gender and country. This study offers initial insights into some determinants of condom use among the youth within Kenya, Tanzania, and Rwanda. Previous literature has found low levels of condom use among young people, however little research demonstrates the significant role gender plays in condom use among sub-Saharan African adolescents (Adegoke, 2001; Kiragu and Zabin 1993; Mbizvo et al., 2005; Prata et al., 2005).

Despite AIDS awareness and knowledge of condom use in many sub-Saharan countries a large proportion of adolescents are engaging in risky sexual practices; this is especially true among young women. Condom use remains relatively low among young women and among those who have fewer economic resources for formal education and health services. According to previous studies, unmarried women who are sexually active are at a higher risk for HIV infection than for pregnancy. This is because of the overall low contraceptive use among sexually active youth and their lack of consideration that condoms provide dual protection against HIV/AIDS and unwanted pregnancies (Brockerhoff and Biddlecom, 1999; Erulkar, 2004; Gorgen et al., 1998; Hansen et al.,

1990; Maharaj, 2006; Prata et al., 2005 Sunmola et al., 2002). Low condom use among young women is possibly linked to their lack of involvement in the condom use decision-making process, and more specifically their lack of negotiating condom use with their sexual partner. The analysis in this study revealed that those who have 12 years of education and are sexually active four weeks prior to the study increased their odds of condom use at both first and last sexual intercourse for both male and female adolescents. The studies show that within each country there still remains low contraceptive use among the adolescent population, particularly among young women.

The percentage of sexually active youth within each country varies not only from country to country but also varies by gender. The overall percentage of sexually active adolescent males in Kenya is 30 percent and for females is 6 percent. Whereas, the percentage of sexually active adolescents in Tanzania and Rwanda is much smaller ranging as low as 1 to 3 percent among Rwanda youth and 13 to 14 percent among Tanzania youth. It is encouraging that the results revealed that being sexually active increases the odds of using a condom at both first and last sexual intercourse.

An overall review of the data reveals some significant differences and similarities by gender and country. For instance, the majority of adolescent males and females had at least primary and secondary education. Kenya's adolescent population (male and female) has a higher percentage of individuals with more than 12 years of education compared to adolescents of Tanzania and Rwanda. Most adolescents were affiliated with prominent religions Catholicism, Protestants, and Islam, which reflected the individual landscape of each country, but had no statistical significance on encouraging or discouraging safe sexual behavior. However, within each country adolescent females with some type of

religious affiliation were more likely to report condom use at first sexual intercourse than were adolescent males. In addition, a majority of all adolescents (male and female) for each country identified themselves as the “richest” wealth index. Finally, male adolescents in each country were more likely to be sexually active during the four weeks prior to the survey than were female adolescents.

The results from cross-tabulation analysis reveal positive gender differences to condom use at both first and last sexual intercourse. The analysis reveals that overall male adolescents were more likely to use a condom at both first and last sexual intercourse than were female adolescents. Specifically, adolescent females for each country within age groups 15-19 and 20-24 were more likely to use condoms at *first* sexual intercourse than were adolescent males of the same age groups. In contrast, adolescent males of each country within age groups 15-19 and 20-24 were more likely to use condoms at *last* sexual intercourse than were adolescent females of the same age groups. While in some instances female adolescents were more likely to use a condom at first sexual intercourse than were male adolescents in all three countries, the results do reveal that male adolescents of all three countries are more consistent condom users at both first and last sexual intercourse than are female adolescents. One explanation for why female respondents were more likely to use a condom at first sexual intercourse than at last sexual intercourse could be found in the status of relationship. For instance, if the relationship is casual then she might be more likely to use a condom with her partner whereas if the relationship is more established then she might feel that she trusts or loves her partner, thus the use of a condom is deemed as unnecessary (Prata et al., 2005).

The documented gender differences in condom use highlight the importance of addressing women's status in health promotion and adequate health services as well as their role in society. According to previous studies, young women are less likely to engage in risky sexual practices such as having multiple sexual partners, casual sex, and sex with prostitutes. However young women's perceived risk of contracting AIDS is greater because of their partner's sexual behavior and desires (Brockerhoff and Biddlecom, 1999; UNAIDS, 2004; Zabin and Kiragu, 1998). Gage (1998) and Blanc (2001) argue a significant point that behavioral changes lay in culturally based gender power imbalances, which can be compounded by gender stratification of economic dependency and political power within the society. According to Gage (1998), females do not perceive risky sexual behavior as do men primarily due to the ways young girls are socialized to give their sexual priority to satisfying a man's pleasure through handing over complete sexual control to him. Therefore, this socialization of females creates a system of gender inequality and prevents women's ability to acquire accurate information on reproductive health, reduces the ability to have input on the sexual decision-making process, and limits the ability to negotiate contraceptives (Blanc, 2001). However, should it not be ignored that women's physiology makes them more vulnerable to infection such as HIV and STDs.

An overall review of the cross-tabulation results between adolescent males and females reveals that adolescent females in each country with more than primary education, who were practicing Protestants, and who identified themselves in the "richest" wealth index, were more likely to report condom use at first sexual intercourse than were adolescent males with the same demographic profile. Adolescent males in each

country with at least primary education, mainly practicing Muslims, and who identified themselves in the “richest” wealth index were more likely to report condom use at last sexual intercourse than were adolescent females with the same demographic profile for each country. The majority of these independent variables did not have any statistically significant impact on condom use at both first and last sexual intercourse primarily due to the low sample size for each country.

The logistic regression analysis of condom use at both first and last sexual intercourse by gender and country reveals significant gender differences within the reference countries. For instance, having 12 years of education increased the odds of reporting condom use at both first and last sexual intercourse for both adolescent males and females of Kenya (First=2.220-Men/1.797-Women; Last=1.975-Men/1.821-Women). In addition, being sexually active during four weeks prior to the survey increases the odds of reporting condom use at first sexual intercourse for adolescent females in Kenya. Kenyan adolescent males who identified themselves in the “richest” wealth index were more likely to report condom use at last sexual intercourse than were their female counterparts; this finding was only marginally significant.

In Tanzania, having 12 years of education increased the odds of reporting condom use for females at last sexual intercourse; however, education had no such effect adolescent males. Yet, adolescent males who were sexually active during four weeks prior to the survey were more likely to report condom use at last sexual intercourse than were adolescent females, though all of the findings were only marginally significant. Similarly for Rwandan females, being sexually active during four weeks prior to the

survey significantly increased the odds of reporting condom use at both first and last sexual intercourse, although marginally.

The logistic regression model found that education increased the odds of condom use in adolescent females from Kenya and Tanzania at both first and last sexual intercourse. These results support Hargreaves and Boler's argument that when young African girls are educated they are equipped with more knowledge about sexual behavior and this gives them the ability to make better decisions concerning condom use (Hargreaves and Boler, 2006; Prata et. al., 2005). Kiragu and Zabin also suggest that young girls with higher educational attainment are more likely to use contraceptives in their study of female students in Kenya. However, in reference to Rwanda, Collins' model of gender stratification in developing countries could explain Rwanda's gender differences and condom use. His model reviews the influence of culture and historical circumstances which diminish the status of women in most societies. In developing countries like the reference countries, Collins argues that militarization has a greater impact on gender stratification by creating sharp distinctions between male and female roles, which could be suggested in this study. According to Collins, a small military organization in a "low-surplus society has little effect" on gender stratification, however, "a highly organized, male-dominated military in a relatively low-surplus society contributes to sharp distinctions between male and female work roles" and controls over female sexuality (Wemuth and Monges, 2002:6). Therefore, it's safe to speculate that the cultural influences of several European nations, and the historical past of ethnic civil wars and recent genocide within in sub-Saharan Africa has contributed to the position of women and the existing gender stratification. This is particularly true of female sexuality

since women are falling more vulnerable to HIV and STDs at a much higher rate than men. For example, Rwanda has remained on the World Bank's list of poorest countries in the world; therefore, a social environment is created where adolescent females are more likely to fall vulnerable to early sexual activity and the advances of older men (Adegoke, 2001; Middleton, 2008). Brockerhoff and Biddlecom (1999) argue that females are more likely to have multiple partners but primarily for financial reasons than males who have multiple partners for biological gains. Because young girls in Africa are facing earlier marriage, teenage pregnancy, more home and agricultural responsibilities, transition into head of household role, and higher unemployment rates in urban areas, they are further prevented from pursuing adequate education (Ampofo et al., 2004). For instance, Ampofo et al. (2004), cites a study by Awusabo-Asare et al (1993) that looks at the perception of men's and women's sexual rights in countries of sub-Saharan Africa. The authors determine that some women consider their status hopeless to refuse to have sex with their partners, further compounding the reality of their lack of control over their sexuality and increasing the women's vulnerability to infection.

The results of the logistic regression analysis also showed that education is positively associated with non-risk taking behavior for most of the reference countries and is more significant for females than males; likewise, specific knowledge on condom use and higher education attainment deters risky sexual practices. This finding contradicts the results of previous studies that, "knowledge is a necessary but insufficient condition to reduce exposure to the risk of HIV infection" (Njoug and Martín, 2006:160). Clearly the problem is more complex than just learning about condoms.

One possible reason why education does not translate into safe sexual behavior in Rwanda might lie in distorted perceptions of risk and in some cases level of accuracy of sexual information from family or social networks. The youth population oftentimes consider themselves invincible to sexually related diseases, particularly adolescent males. According to Hansen et al. (1990), among adolescents engaged in risky sexual behavior, females have a one out of 150 chance of getting AIDS whereas males have a one out of 900 chance of getting AIDS. Furthermore, the researchers suggest that adolescent males leave the responsibility of suggesting safe sexual practices (e.g. condoms and/or birth control pills) to adolescent females.

Countless studies have suggested that adolescents are knowledgeable about sexual reproductive and health issues such as condom use and that condom use helps prevent HIV and STDs, but the disparity between knowledge of condom use and actual usage of a condom in sexual encounters is staggering (Adegoke, 2001; Ampofo et al., 2004; Brockerhoff and Biddlecom, 1999; Djamba, 1997; Gorgen et al., 1998; Hargreaves and Boler, 2006; UNAIDS, 2004; Varga, 2003; Zabin and Kiragu, 1998). This disparity is wider between men and women because the tendency among adolescent males to view themselves as immune to the consequences of their behavior could be explained by masculine socialization. According to Hansen et al. (1990), younger adolescents were often more likely to deny their perceived risk than were older adolescents. However, female adolescents were also likely to deny their risk but perceived other females as being more vulnerable (Varga, 2003). This perception of other females being more vulnerable could be speculated in Collins and colleagues' New-Freudian theory, which argues that young girls are usually socialized by a person of the same sex, thus causing

levels of distrust toward other women and encouraging a more nurturing approach toward males (Collins et al., 1993). In addition, sex roles are also defined by cultural definitions of sex appropriate behavior. In some cultures these definitions develop within the context of gender inequalities and later reinforce male dominant behavior particularly within sexual encounters (Ampofo, 2001).

The logistic regression model revealed a positive association between education and condom use, but this relationship was not consistent across gender within each country. My analysis showed no actual link between education and condom use at first and last sexual intercourse for those adolescents (male and female) in Rwanda. However an analysis of adolescents in Tanzania showed a marginal link between education and condom use only at last sexual intercourse and not first sexual intercourse. In addition, male respondents in Tanzania and Rwanda show no link between education and condom use at first and last sexual intercourse. The inconsistency of the findings suggests educational campaigns should be focused toward young adolescents (aged 8-13) providing information both about sexuality and the prevention of HIV and STDs. Furthermore, exposure to early sexual education in schools could help bridge the gap between sexual knowledge and actual behavioral changes (Adegoke, 2001; Ampofo et al., 2004; Middleton, 2008; Njogu and Martín, 2006; UNAIDS, 2004; Zabin and Kiragu, 1998).

A comparison of the logistic regression results by each reference country reveals some discussion surrounding the differences each country faces tackling the HIV infection rate and education of adolescents. HIV prevalence rates for the adolescent population are higher in urban areas than in rural areas, even though most of sub-Saharan

Africa is predominantly rural. The results reveal that Kenya has the most significant association between education and condom use at both first and last sexual intercourse for both male and female adolescents. One possible explanation is that Kenya, compared to other sub-Saharan countries, is considered moderately industrialized and westernized in their educational approach, which may suggest that the results are significant to Kenya's approach to HIV policy and its impact on education and risky sexual behavior.

Logistic regression results in Tanzania reveal a marginal association between education and condom use only at last sexual intercourse for female adolescents, while Rwanda had no significant association between education and condom use at either first or last sexual intercourse for adolescent males and females. These results do not support the argument that more education can deter risky sexual behavior among sub-Saharan African youth. As noted previously, Tanzania and Rwanda are considered relatively poor nations. According to Brückner et al. (2004), "poverty is associated with teenage initiation of sex, nonuse of condoms at first sexual intercourse and accidental pregnancy" (p. 248). Since the study sampled only sexually experienced youth (N=279) from all three reference countries, which included adolescents living in urban areas; the number remained considerably low. The low sample size of sexually active youth from urban areas does not support Dyson (2003) argument that those individuals living in urban areas are more sexually active than those in rural areas.

Finally, I proposed two hypotheses targeting the gender differences and condom use: (1) adolescent males will demonstrate more condom use at both first and last sexual intercourse than will adolescent females; and (2) will the level of education impact condom use at either first or last sexual intercourse among both male and female

adolescents, particularly adolescent females. My results offered some support for these hypotheses in the countries of Kenya and Tanzania whereas there was no support for them in the data for Rwanda. In conclusion, the study found that the population of both males and females aged 15-24 years has inconsistent condom use at both first and last sexual intercourse. Female adolescents were more likely to report condom use only at first sexual intercourse whereas male adolescents were more likely to report condom use at only last sexual intercourse. However, education was more positively associated with male and female adolescents of Kenya to report condom use at both first and last sexual intercourse and had a marginal association for female adolescents of Tanzania. There was no association with education among adolescents of Rwanda but there was a marginal association to recent sexual activity only among female adolescents. Female adolescents face considerable sexual and social risks even at a young age. The social landscape for each reference country supports the possibility of gender stratification to be fairly high among less educated and poor woman. Each country is distinctive in their cultural norms and culturally diverse in gender roles that may prevent women the ability to negotiate condom use and encourage male sexual dominance differently. The result of this study highlight the continued need to address more effective programs specifically designed to incorporate gender stratification issues (i.e. gender roles and gender-based power) and their influence on consistent condom use among adolescents in Kenya, Tanzania, and Rwanda.

My study had some limitations. First, DHS data represents the best available survey on a national level; the sample size for sexually active adolescents is small by most standards. Given these problems, we must look for better ways to conceptualize and

measure such variables more consistently. Among the suggested changes are more consistent data collections within each country. In addition, the collection of data can be done in places outside of the home environment where family members can influence or sway responses to particularly sensitive questions. Moreover, DHS should consider allowing community based organizations, especially those organizations that work with the youth to collect data. Second, self-reported sexual behavior may be subject to many reporting errors. Respondents, specifically adolescent females are not likely to report accurate sexual behavior possibly due to social norms that dictate female piety (Blumberg, 1984; Walle, 1990). Third, the composition of the survey allowed for biased responses, specifically respondents could choose “I don’t know” for responses to key condom use variables. This bias in response does not allow for accurate calculation to occur when the research is only examining sexually active adolescents. One possible reason for this inaccuracy could be as simple as language. In review of the reference countries, each country had more than one widely accepted language. However, Middleton (2008) noted that many Africans speak several languages and even more dialects. Therefore, certain words and phrases might have different meanings for respondent. For example, the word condom might have several words to describe it amongst four or five different parts of an urban area or even amongst different ethnic groups. Four, the reference countries were not randomly selected. There is, my inclusion of only a few east African countries was due to the availability of DHS data. However, the inclusion of more east African nations might yield a different relationship between education and condom use among males and females. Lastly, the total sample size of adolescents in all three countries (N=3440) for a study of this nature is fairly small. One

possible explanation is the small number of survey participants and second possibility is the lack of family support for young males and females to participate in a survey where sexuality and reproductive questions would be asked. Among the suggested changes are the consideration of including Africa's large orphan population within in the sampling of adolescents, since this population is also at risk for HIV and STDs. DHS could possibly consider expanding from only house-hold collection methods to also including orphanages, foster centers, and/or church or non-governmental organizations in order to attain a more well-represented survey of the adolescent population of Kenya, Tanzania, and Rwanda.

Despite the limitations of the data, I found evidence of a positive association between education and condom use at either first sexual intercourse and/or last sexual intercourse and noticed some gender differences within the reference countries. My findings provide substantial empirical evidence that expansion of formal education in low-income countries can have positive consequences on condom use such as those found in Kenya and what is slowly being seen in Tanzania and Rwanda. Given those young girls in sub-Saharan Africa report starting primary school at the age of 11, the advocacy for women's education, which will continue to be a challenge for researchers in the coming years (Brockerhoff and Biddlecom, 1999).

Considering Kenya, Tanzania, and Rwanda profiles there are economic, demographic, political, and social forces that appear to constrain women's status in society, particularly the constraints on women's ability to pursue an education. In addition, immediate changes are needed to modify behavioral patterns that are placing the youth population at higher risk for HIV/AIDS and STDs within the public health model

of addressing disease prevention. This study supports prior research suggesting the need for more education and knowledge about AIDS; however, education alone will not bring about broad modifications to sexual patterns and lower risk. Among the suggested changes are effective prevention interventions which would sensitize the youth to personal risk so possibly affording them the ability to make more informed choices, possibly improving communication among individuals in established relationships concerning reproductive choices, and empowering women to negotiate safer sexual behavior. Many researchers have advocated for further AIDS education, motivating and persuading condom use, and enabling more women's right within the decision-making process as a broader and possibly more effective campaign against AIDS among the adolescent population. Without a vaccine against AIDS, risk reduction through consistent condom use remains the most effective tool in decreasing HIV infection and prevalence rates in sub-Saharan Africa (Brockerhoff and Biddlecom, 1999; Middleton, 2008; Njogu and Martín, 2006; Zadin and Kiragu, 1998).

While my discussion of results contains speculation concerning gender differences and condom use, more definitive conclusions may derive from analysis of data containing information on reasons for not attending school, actual household income, perception of cultural norms, perception of effective public health campaigns, socialization patterns, sex ratios at place of residence, and other information. More precise estimates of the effects of gender on condom use will need further exploration and a larger data set with fewer variable restrictions.

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