Social and psychological determinants of sexual activity and contraceptive use: a hierarchical analysis among youth in Southern Ghana

Ernest A. Alema-Mensah

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ABSTRACT

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SOCIAL AND PSYCHOLOGICAL DETERMINANTS OF SEXUAL ACTIVITY AND CONTRACEPTIVE USE: A HIERARCHICAL ANALYSIS AMONG YOUTH IN SOUTHERN GHANA

Advisor: Dr. Ernest B. Attah

Dissertation dated December 2007

The objective of this study was to determine the predictors of risky sexual behavior by an integrated approach using proximate determinants (intentions index, skills index and situational factors index), intermediate variables (perceived benefits and perceived barriers index, perceived norms index and perceived self efficacy index) and wider background factors (gender, relationship status, access to information and supplies index and actual knowledge about health behavior index). The indices evolved from behavioral theories addressing social, psychological and cultural factors that influenced Ghanaian youth. Two hundred and ninety (290) respondents were recruited from high schools, youth clubs, youth workshops and marketplaces from six regions in Ghana using randomization techniques. The responses were examined employing hierarchical logistic regression modeling.

All of the ten indices had significant association with the sexual behavior index, the outcome variable, thus making the case that risky sexual behavior was influenced by a wide spectrum of variables including both personal and environmental factors. The bivariate analysis showed eight of the thirteen hypotheses were supported when individual indices
were examined. To accomplish the ultimate objective of changing behavior in order to
decrease risky sexual behavior, the integrated model as a whole was highly significant.

Therefore, if there were resources to make global changes in relation to all of the factors, one would expect high success, but if resources were limited and one had to prioritize, then one would have to focus on the three determinants which emerged as significant. The intervention should target (a) access to information and contraceptive supplies, (b) relationship status and (c) greater female function in the relationship. The relationship status should encourage steady relationships and discourage casual relationships.
SOCIAL AND PSYCHOLOGICAL DETERMINANTS OF SEXUAL ACTIVITY AND
CONTRACEPTIVE USE: A HIERARCHICAL ANALYSIS AMONG YOUTH IN
SOUTHERN GHANA

A DISSERTATION

SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

BY

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DEPARTMENT OF INTERNATIONAL AFFAIRS AND DEVELOPMENT
ATLANTA, GEORGIA

DECEMBER 2007
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LIST OF ABBREVIATIONS

AIDS  Acquired Immune Deficiency Syndrome
CDC   Centers for Disease Control and Prevention
CEDPA Center for Development and Population Activities
ERP   Economic Recovery Program
GDHS  Ghana Demographic Health Survey
GLSS  Ghana Living Standards Survey
GNCC  Ghana National Commission on Children
GSMF  Ghana Social Marketing Foundation
GSS   Ghana Statistical Survey
GYRHS Ghana Youth Reproductive Health Survey
HIV   Human Immunodeficiency Virus
HBM   Health Belief Model
ISSER Institute of Statistical, Social and Economic Research
JSS   Junior Secondary School
NLCD  National Liberation Council Decree
NMIMR Noguchi Memorial Institute for Medical Research
NYP   National Youth Policy
OAU   Organization for African Unity
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<th>Acronym</th>
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<tr>
<td>PIP</td>
<td>Population Impact Project</td>
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<td>PPAG</td>
<td>Planned Parenthood Association of Ghana</td>
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<td>SAS</td>
<td>Statistical Application Software</td>
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<td>SCT</td>
<td>Social Cognitive Theory</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<td>SSS</td>
<td>Senior Secondary School</td>
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<td>STD</td>
<td>Sexually Transmitted Disease</td>
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<td>STI</td>
<td>Sexually Transmitted Infection</td>
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<td>TPB</td>
<td>Theory of Planned Behavior</td>
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<td>TRA</td>
<td>Theory of Reasoned Action</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNAIDS</td>
<td>Joint United Nations Program on HIV/AIDS</td>
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<td>UNDP</td>
<td>United Nations Development Program</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>WHO</td>
<td>World Health Organization</td>
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<td>YMCA</td>
<td>Young Men’s Christian Association</td>
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CHAPTER 1
INTRODUCTION

BACKGROUND AND SIGNIFICANCE OF THE STUDY

Whenever a young person engages in sexual intercourse with a non-marital or non-cohabiting partner, such contact is associated with an increased risk of contracting sexually transmitted diseases. Consequently, having sexual intercourse with any person other than a spouse or a regular partner is defined in this study as risky sexual behavior.¹ Sexual risk-takers have to contend with the possibility of infection with human immunodeficiency virus (HIV), acquisition of a sexually transmitted disease (STD) such as gonorrhea, Chlamydia and syphilis, and unintended pregnancy.

Many sexually active youth in Ghana practiced unprotected sex by routinely not taking measures to avoid or lower the risk, such as correctly and consistently using condoms.² Thurman and Franklin and the Ghana Demographic and Health Survey (GDHS) both reported that 97% students surveyed had knowledge of condom use as an


effective means of avoiding HIV infection and STDs, but only 40% translated this knowledge into action.³

In order to identify high-risk sexual behaviors among young people, it was important to focus on their characteristics. These included exposure to subpopulations with higher prevalence of sexually transmitted infections (STIs) and HIV than the general population. Other high-risk factors among young people in Ghana that might predispose them to STIs or HIV infections were susceptibility as a result of socioeconomic position in society and travel away from home.⁴ Those Ghanaian youth who were susceptible to high-risk sexual behavior could be reached for research and had potential for cost-effective interventions.⁵ Such interventions were important because youth sexual activity had the risk of significant consequences such as sexually transmitted diseases (STDs), pregnancy, social and economic disruptions as well as legal implications.⁶

Different international organizations had different definitions for categories of young people. In 1994, the International Planned Parenthood Federation pioneered the

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⁵ Ibid.

definition of adolescence as the age between 15 and 19 years old. The World Health Organization (WHO), the United Nations Children’s Fund (UNESCO), and the United Nations Population Fund (UNDP) issued a joint statement in 1998 in which they agreed on the following categorizations of young men and women: adolescents were 10 to 19 years old; youth were 15 to 24 years old, and young people (an overarching category) were 10 to 24 years old.

Most of the literature reviewed for this research categorized their subjects as adolescents, youth, and young people. This research included participants who were 10 to 24 years old. This meant both adolescents and youth were studied. In this study all of these were called youth.

Research indicated that Ghana’s youth population had been growing rapidly. According to the 2003 Ghana Demographic and Health Survey, one in every five persons in Ghana was a youth aged 15 to 19 years.

This survey further affirmed that there was an increase in early onset of sexual activity, teenage pregnancy, abortions, incidence of STDs, HIV, acquired immune deficiency syndrome (AIDS), drug abuse, and child abandonment among the youth. One in every five Ghanaian youth (22%) aged 15 to 19 years was pregnant or was already a mother. This was more evident in rural areas (26%) than in urban (16.4%).


Ibid.

Ibid.
Lack of youth-specific information and education on responsible sexual behavior had resulted in low use of contraceptives and inconsistent and improper use of condoms. This in turn had resulted in unwanted pregnancies, STDs and HIV/AIDS.11

According to the Ghana Demographic and Health Survey (2003), most women (98%) and men (99%) including both youth and adults had heard about AIDS. However, the depth of their knowledge was somewhat limited. Fourteen percent of women and 9% of men stated that they did not know if AIDS was avoidable. In addition, one in five women and one in nine men did not know of any way to avoid contracting AIDS. Fifty-eight percent of both women and men believed that they had no chance of contracting HIV/AIDS. Respondents who believed that they had no risk or only a small risk of contracting HIV/AIDS were less likely to change their behavior than those who believed that they had a moderate or great risk of contracting the disease.12

Although two decades of biomedical and behavioral research had established the biological causes of HIV/AIDS as well as viable modes of transmission, there was still no cure or vaccine for HIV/AIDS as of 2006. Therefore, it was important to focus on possible behavioral ways to combat the spread of the disease. One possibility was behavior modification based on behavioral theory. The reasoning behind this intervention was that the epidemic was rooted in the behaviors that transmitted the virus. Besides, integrating social and cognitive theories as complementary theories had

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been effective in other behavioral change interventions.\textsuperscript{13} Also, classic behavioral models grounded in established theories of behavior change, such as the Health Belief Model (HBM),\textsuperscript{14} Social Cognitive Theory (SCT)\textsuperscript{15} and Theory of Reasoned Action (TRA),\textsuperscript{16} and identification of the theoretical constructs that were most significant in influencing protective behaviors were seen as critical for HIV prevention efforts.

Furthermore, research on relationships and youth sexual behavior in Ghana indicated that multiple sexual partners (sequentially, if not concurrently), inconsistent condom use, and vulnerability to coercion resulted in sexual risk-taking behaviors among Ghanaian youth.\textsuperscript{17}

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\item \textsuperscript{12} Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research Legon, Ghana and ORC Macro. (MI). 2004. \textit{Ghana Demographic and Health Survey 2003}. (Calverton, Maryland: GSS and MI), 207.
\item \textsuperscript{16} I. Ajzen “From intentions to action; A theory of planned behavior.” In J. Kuhl and J Beckman (Eds.) \textit{Action control: From cognition to behavior}. (New York: Springer Verlag.1985), 11-39.
\end{itemize}
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In addition, the primary mode of spread of HIV in Ghana, as in most African countries, was heterosexual transmission.\textsuperscript{18}

According to the 1990 population-based seroprevalence survey conducted among 2,410 residents of four communities of southern Ghana, 1\% of males and 2\% of females were infected with HIV type 1 or 2.\textsuperscript{19} In 1997, a seroprevalence survey among sex workers in Accra revealed that 73\% of the sex workers in Accra were infected.\textsuperscript{20} This was a substantial reservoir of infection that could make its way into the population. There was limited information for devising effective AIDS prevention strategies targeted at Ghanaian youth.\textsuperscript{21}

There was a need for more in-depth research in Ghana and other Sub-Saharan African countries to deepen understanding of the relative importance of the numerous factors that appeared to influence youth risk-taking.\textsuperscript{22} Furthermore, in view of the many antecedents of risk-taking behaviors, it was not likely that a “magic bullet” would be found to substantially change


\textsuperscript{21} A. M. Karim, 2003, op. cit.

\textsuperscript{22} Ibid.
youth behavior. However, additional research would likely provide valuable information for programs to use in designing effective intervention.

This objective of this research was to contribute to a comprehensive assessment of factors underlying sexual risk-taking among unmarried Ghanaian youth. The research was intended to result in a framework that would incorporate and integrate the concepts of behavior modification, based on behavioral theories, in a way that would be directly applicable to the youth in Ghana.

GLOBAL PERSPECTIVE

The World Health Organization (WHO) stated that a total of 39.5 million people were living with HIV in 2006 (2.6 million more people than in 2004). Among the 250 million new cases of STDs, sexually active youth were the highest risk. The 20 to 24 year olds were followed by 15 to 19 year olds as those with the highest risk of contracting STDs and even HIV. This was due mainly to the series of sexual relationships and unprotected sex in which many of them engaged. One out of every

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24 AM Karim, 2003, op. cit.


20 teenagers worldwide contracted an STD each year. Some STDs such as HIV, gonorrhea, Chlamydia and syphilis could cause life-long disabilities including infertility and even death.

Moreover, HIV and malaria parasites accounted for the highest number of deaths worldwide by any single infectious agent. Since the beginning of the HIV/AIDS pandemic, AIDS had claimed more than 25 million lives, and more than 14 million children had lost one or both parents to AIDS. Every year an estimated 3 million people died of AIDS, and 500,000 of them were children under the age of 15 years.

Nearly 5 million persons (4.2 million adults and 700,000 children) were newly infected with HIV each year; 95% of them lived in developing countries. In 2003, almost 50% of newly HIV-infected adults were women, and 50% were young adults in the 15-24 age groups.

Unsafe sex was the predominant mode of transmission of HIV worldwide and accounted for 80-90% of infection. There were 40 million persons living with HIV/AIDS worldwide by 2003. Of these, 2.5 million were children less than 15 years of age. Six million people in developing countries had HIV infections that urgently

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29 GDHS 2003 op. cit. 220.

30 Ibid.
needed antiretroviral treatment to keep them alive and healthy, but fewer than 300,000 were being treated.\textsuperscript{31}

As shown above, risky sexual behavior played a major role in the transmission of STDs and HIV/AIDS. Furthermore, sexual behavior was influenced by many factors not always under the control of the individual, including gender norms as well as social and economic conditions. In order to be effective, prevention behaviors aimed at risk avoidance and reduction needed to be relevant to the indigenous social and cultural context, locally endorsed,\textsuperscript{32} and respectful of human rights.

**SUB-SAHARAN AFRICA PERSPECTIVE**

Approximately two-thirds (63\%) of all people living with HIV globally lived in Sub-Saharan Africa, where there were an estimated 24.7 million HIV/AIDS-infected individuals in 2006. There were 2.8 million new HIV cases of adults and children in 2006, more than in all other regions of the world combined. Moreover, the 2.1 million AIDS-related deaths in Sub-Saharan Africa represented almost three-quarters (72\%) of global AIDS deaths.\textsuperscript{33}

\textsuperscript{31} Ibid.


The United Nations estimated that there were 69 million young people aged 10-24 years in Sub-Saharan Africa in 1960. This population doubled by 1985 to 141 million.\(^{34}\)

The problem of youth sexually risky behavior was often quite complex, considering the socio-cultural environment in which it occurred. Research contended that risky sexual behavior explained the variations in HIV infection prevalence among different regions in sub-Saharan Africa.\(^{35}\) The study emphasized the need for behavior interventions, especially interventions targeted at youth.\(^{36}\) Along the same lines, in order to understand the sexual behavior and choices of sub-Saharan women, the social and economic context as well as the power relations between the genders had to be addressed.\(^{37}\)

GHANAIAN PERSPECTIVE

The Government of Ghana estimated the number of adults and children living with HIV/AIDS in 2004 as 404,000.\(^{38}\) The 2003 Ghana Demographic and Health Survey reported prevalence of 2.2% among the 9,000 people who agreed to be tested. The report stated that 20% of women and 40% of men aged 15-49 reported that they


\(^{36}\) Ibid, 195.


engaged in risky sexual behavior. Even more disturbing was the fact that 50% of women aged 15 to 24 and more than 80% of men in the same age cohort engaged in risky sexual behavior.\textsuperscript{39} Ghanaians had widespread knowledge of HIV and modes of transmission, with awareness of AIDS estimated at greater than 95%, although fear and stigmatization of HIV-positive people remained high. Ghanaians were at risk of further HIV spread for a variety of reasons, including engaging in transactional sex, marriage and gender relations that disadvantaged women and made them vulnerable to HIV, inaccurate perceptions of personal risk, and stigma and discriminations toward people living with HIV/AIDS.\textsuperscript{40}

Ghana was a multiethnic country with some common features in traditional roles, status responsibilities and the socialization process for youth. The initiation ceremony was a community affair held under the auspices of the queen-mother. If a girl became pregnant before an initiation ceremony, she had committed an offense and could be banished from the community.\textsuperscript{41} This stage gave the young people the responsibility for cleaning public places, such as paths to water bodies and farms, and for the security of the community.\textsuperscript{42} Traditional systems expected parents and other

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\textsuperscript{39} Ghana Demographic and Health Survey, (Calverton, Maryland: GSS and USA, 2003).
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\textsuperscript{40} United States Agency for International Development (USAID), \textit{Population, Health Profile}. (Ghana, Washington, DC, March 2005), 2.
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community members to bring up children. In fact, some communities, like the Dagomba of northern Ghana, handed the youth to a foster parent, usually from the patriclan, to be trained.\footnote{43} HIV/AIDS had been spreading more slowly in Ghana than in Eastern and Southern Africa. Surveillance data from antenatal sites put the 2002 HIV prevalence at 3.4% — more or less constant since standardized estimates began in 1992. UN AIDS numbers from the end of 2001 cited similar, albeit slightly lower, estimates that 360,000 adults and children were infected, with an adult prevalence of 3%. Although overall levels of infection had remained relatively low, several factors placed Ghana at risk for further spread of the disease, such as:

- Lack of information by the most vulnerable populations
- Inaccurate perceptions of personal risk
- Marriage practices and gender relations, such as polygamy, early marriage, and women’s subservience to men
- Widespread poverty
- Stigma and discrimination toward those living with HIV/AIDS.

HIV prevalence was not uniform across Ghana’s regions. In 2002, it ranged from a low of 1.7% in the northern region to a high of 6.5% in the eastern region. Rates were generally higher in densely populated areas, particularly in regional capitals such as Kumasi, Koforidua, and Accra. HIV prevalence was also high in mining towns,
such as Obuasi and Tarkwa, as well as in border towns and along main transportation routes.

STATEMENT OF THE PROBLEM

The purpose of the study was to describe the proximate determinants, the intermediate variables, and the wider background factors at the heart of sexual risk-taking among Ghanaian youth. This research paper’s focus was on ten determinants of risk-related behaviors. The proximate determinants were intentions, skills and situational factors. The intermediate variables were perceived benefits and perceived barriers, perceived norms (peers and community expectations) and perceived self-efficacy. The wider background factors were gender role perceptions, relationship status (steady or casual), access to information and supplies, and actual knowledge (about STDs, HIV/AIDS and contraceptives).

The study focused on sexual behavior outcomes and their association with three categories of risk-related factors using hierarchical analysis. The integrated model suggested that sexual behavior, the central outcome of focus, was understood to emerge out of a three-step process involving three sets of determinants. The first step was the most proximate determinants of behavior. These included intentions, skills and situational factors. The second step identified the factors that were determinants of the proximate variables, called intermediate variables. These included perceived benefits and perceived barriers, perceived norms and perceived self-efficacy. The third step in the process addressed wider background factors, which in themselves were determinants of the intermediate
PREVIEW OF THE STUDY METHODOLOGY

The research used primary and secondary data. The secondary data sources included a library search of scientific journals, magazines, reviews, and books. Reports of studies from international organizations such as United Nations Special Session on HIV/AIDS, World Health Organization (WHO), and Ghana Statistical Service (GSS)/Ghana Demographic and Health Surveys were reviewed. Other reviews included data from organizations such as The Alan Guttmacher Institute, a not-for-profit corporation for sexual and reproductive health research, policy analysis and public education aimed at protecting the next generation, USAID Country Health Statistical Report on Ghana (March 2005) as well as documents produced by the Ghanaian Ministry of Health.

The primary data were collected through a structured questionnaire administered in the Southern Regions of Ghana. The survey targeted female and male youths using random and stratified sampling method to recruit participants from high schools, youth clubs, and youth conferences from the five southern regions in Ghana. Variables. These included gender, relationship status, access to information and supplies, and actual knowledge about health behavior.

ORGANIZATION OF THE STUDY

This study is divided into nine chapters. The introduction outlines the background of the problem, the significance of the study, the problem statement and a brief description of the methodology. The second chapter analyzes the literature on previous research studies of Ghanaian youth. The third chapter details the conceptual framework and hypotheses. The fourth chapter gives a description of the country’s historical,
social, political, economic background and the social significance of the public health problem. The fifth chapter examines the research design and analytic techniques, including specific operational measures. The sixth chapter presents the univariate profile of the findings. The seventh chapter presents the bivariate profile of the findings. The eighth chapter presents the multivariate profile of the findings. The ninth chapter presents conclusions and policy recommendations on social and psychological determinants of sexual activity and contraceptive use among youth in Ghana.
CHAPTER 2

REVIEW OF PREVIOUS RESEARCH

This chapter examines a national picture of adolescent sexual health in Ghana as it applied to the avoidance of negative health outcomes and the promotion of positive outcomes such as non-exploitive sexual relationships. The chapter also examines how these outcomes related to the integrated model that suggested that risky sexual behavior emerged out of a three-step process. The most proximate determinants of sexual behavior were intentions, skills and situational factors. This step was followed by the intermediate variables such as determinants of intentions, the perceived benefits and the perceived barriers, the perceived norms and the individual’s perceived self-efficacy. Finally there were the wider background factors, including determinants of perceived benefits and perceived barriers, gender relationship status (steady or casual encounter), access to information and supplies such as the availability of clinics and vendors as well as the actual knowledge of health behavior.

RESEARCH STUDIES OF GHANAIAN YOUTH

Since the early 1990s, a substantial amount of research had focused on sexual risk-taking behaviors among Ghanaian youth and the extent of change over time.¹,²,³

However, the available data provided only limited information to help develop effective prevention strategies targeted at Ghanaian adolescent risky sexual behavior, including STI, HIV/AIDS.\(^2,5,6,7\) The literature review began with national and large sample data that tended to be more useful regarding generalizations about adolescent health in the entire country and were used for policy development and clinical or educational practices.\(^8\) It was also important to review other studies with smaller sample data, since diversity might not have been captured by national or large sample data sets. For example some adolescents might have engaged in sporadic or no sexual behavior while others might have been highly sexually active with multiple partners.\(^9\)


\(^9\) Ibid.
NATIONAL STUDIES

Ghana Demographic and Health Survey (GDHS 2003)

The 2003 Ghana Demographic and Health Survey (2003 GDHS)\(^{10}\) was a nationally representative survey of 5,691 women aged 15-49 and 5,015 men aged 15-59 from 6,251 households covering 412 sample points (clusters) throughout Ghana. It was part of the global Demographic and Health Surveys (DHS) program designed to monitor the population and health situation in Ghana as a follow-up to the 1988, 1993 and 1998 GDHS surveys. This study used a two-stage sample based on the 2000 Population and Housing Census and produced key indicators for each of the ten regions in Ghana.

Information was obtained on fertility levels, marriage, sexual activity, fertility preferences, awareness and use of family planning methods, breastfeeding practices, nutrition status of women and young children, childhood mortality, maternal and child health, awareness and behavior regarding HIV/AIDS and sexually transmitted infections (STIs).

According to the survey, one of the strategies for reducing the risk of contracting an STI was for young persons to delay the age at which they became sexually active. The study findings reported that 9% of women and 4% of men had sex by age 15. Forty-eight percent of women and 25% of men first had sex by age 18. All

women were sexually active after age 24. Eighty percent of men and 60% of women aged 15-19 had never had sex.\textsuperscript{11}

One in five women and two in five men aged 15-49 reported engaging in higher-risk sexual behavior. Even more disturbing was the fact that half of the women aged 15 to 24 and more than four-fifths of men in the same age cohort engaged in risky sexual behavior.\textsuperscript{12}

Sexual intercourse with more than one partner was also associated with a high risk of exposure to sexually transmitted diseases. One percent of women and 10% of men between the ages of 15 and 49 reported having had sexual intercourse with more than one partner in the twelve months prior to the survey.\textsuperscript{13}

Promoting the use of condoms was an important strategy in the fight against HIV/AIDS transmission. Overall, only 28% of women and 45% of men aged 15 to 49 used a condom during their last episode of higher-risk sex.\textsuperscript{14}

The study conducted HIV tests on 89% of the 5,949 eligible women and 80% of the 5,345 eligible men. Results from the 2003 GDHS indicated that 2% of Ghanaian adults were HIV positive. HIV prevalence in women between the age of 15 and 49 was nearly 3%, while for men 15-59, it was under 2%. This female-to-male ratio of 1.8 to 1 was higher than that found in most population-based studies in Africa. It also implied that young women were particularly vulnerable to HIV infection compared with young

\textsuperscript{11} Ibid. 104-105, 229.
\textsuperscript{12} Ibid. 224, 233-234.
\textsuperscript{13} Ibid. 226-227.
\textsuperscript{14} Ibid. 224.
men. Prevalence among females was consistently higher than among males at all age groups except at ages 40-44, where male prevalence was higher. The female-male gap was particularly large among women and men aged 25-29, where women were nearly three and a-half times more likely to be HIV positive as men. The peak prevalence among women was at age 35-39 (5%), while prevalence rose gradually with age among men to peak at age 40-44 (4%).

Urban residents were found to have only a slightly higher risk of being HIV positive than rural residents, with the urban-rural difference among women slightly higher than among men. Overall prevalence was highest in the Eastern Region (4%), followed by the Western and Brong Ahafo regions (3% each). Prevalence was lowest in the Northern, Central and Volta regions (1% each). Gender differences were apparent in all the regions. Those who had completed primary and middle/junior secondary school education were more likely to be HIV positive than those with either no education or at least secondary education. Work status was related to HIV prevalence among both women and men, with prevalence twice as high among those currently working than those currently unemployed. Prevalence was highest among both women and men in the middle wealth quintile.

Prevalence was significantly higher among widowed women (7%), followed closely by divorced or separated women (6%). Among men, prevalence was markedly higher among divorced or separated men (6%). Results from the 2003 GDHS indicated that, for the vast majority (96%) of cohabiting couples, both partners were HIV

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15 Ibid. 239-244.

16 Ibid. 243-244.
negative, while both partners were HIV positive in only 1% of couples. There was discordance in the HIV positive status of fewer than 2% of couples, meaning that one partner was infected and the other was not.\textsuperscript{17}

\textit{The Ghana Youth Reproductive Health Survey (GYRHS 1998)}

The Ghana Social Marketing Foundation (GSMF) conducted the GYRHS 1998.\textsuperscript{18} The survey provided nationally representative primary sample units totaling 250. These units were chosen through systematic random selection from the country’s 18,628 electoral unit areas, yielding a mean of 10 households per primary sampling unit. The data from the survey of 5,632 youth 12-24 years of age was conducted between April and July 1998 to provide baseline information to support youth policy and program development in Ghana.\textsuperscript{19-20} The HIV/AIDS epidemic in much of sub-Saharan Africa had prioritized public health concern in Ghana. In addition, it led to examination of factors operating at the community levels, school and family to identify behavior factors elevating sexual risk-taking resulting in unwanted pregnancy and sexually transmitted infections (STIs) among Ghanaian youth.\textsuperscript{21}

The dependent variables considered included:

- ever having had sex

\textsuperscript{17} Ibid 252-253.


\textsuperscript{20} GSMF. Op. cit. 6.

\textsuperscript{21} Ibid.
- number of lifetime sexual partners
- number of sexual partners in the three months prior to the survey
- whether those studied had ever become pregnant or impregnated someone
- condom use during first and last sexual intercourse, and
- consistency of condom use with current sexual partner.

The independent variables comprised nine categories of risk and protective factors, including:

- demographic factors
- household economic positions
- communication with or support from family members
- community “connectedness”
- peer influence
- gender role perceptions
- perceived self-efficacy
- communication with partner, and
- non-sexual high-risk behaviors.

Multivariate statistical methods applied to the data helped isolate the effects of the diverse risk and protective variables under consideration, including gender differences. Of the 48% of respondents who reported ever having had sex, 55% were females and 43% were males. Seventeen years was the median age for both genders, and older youth were more likely to have had sex. Sexually active males reported a mean of 1.9 lifetime partners, and females reported a mean of 1.5 lifetime partners.
Those with higher educational levels had a higher likelihood of ever having had sex and of using a condom during first sexual encounter, fewer lifetime sex partners, and a lower likelihood among females of having been pregnant. Higher socio-economic status was associated with a lower likelihood of ever having had sex and being pregnant among females and being more likely to have ever had sex and a sexual partner during the past three months among males.

Those with unmarried peers who had sex experience had a higher likelihood of ever having sex, having more than one sexual partner in the last three months, and among females of having a higher likelihood of ever having been pregnant. Those youth who reported friends laughing at them for not having sex were more likely to have had sex and to have had more lifetime sexual partners.

The more equality in gender role perception was associated with fewer lifetime sexual partners, consistent condom use with one’s current sex partner, and the males were likely to have used a condom at first sex.22 Perceived self-efficacy regarding sexual partner relationships, condom and partner communication were associated with less likelihood of ever having had sex, more likely to have used a condom at first sex; and the females were more likely to have had only one partner in the last three months.23 This study reported that about 1% of males and females aged 12-24 had ever engaged in same-sex as well as heterosexual sexual relationships.24


23 Ibid.

OTHER STUDIES

This section examines surveys of high-risk behavior among Ghanaian youth, focusing on key indicators of multiple partners, condom use, STI symptoms, and teenage pregnancy.

*Multiple Partners*

Consistent condom use, monogamy and abstinence were effective strategies and highly recommended for reducing sexual transmission of HIV and other STDs, yet many adolescents’ sexual activity included multiple partners and relationships with low level of commitment and sexual fidelity.25 A study conducted by the Center for Development and Population Activities (CEDPA) surveyed 400 in-school and out-of-school adolescents (15-20 years old). They represented 30% of the adolescents in the Dodowa community in Ghana. The survey reported two times more adolescent males than females having multiple partners over the past year. Overall, 43% had more than one sexual partner (53% of males and 26% of females) with the number of partners ranging from 0 to 12 for males and from 0 to 22 for females. In-school males were more likely to have engaged in sex with multiple partners than out-of-school male adolescents. More day-school females than female boarders were engaged in multiple sexual partner behavior.26

A similar study by Clara Fayorsey focused on 1,625 students from 15 schools in the Greater Accra, Volta and Eastern Regions. This represented a 20% sample of the


existing student population in the junior (JSS) and senior (SSS) secondary schools in
the regions. Forty three percent of the 91 respondents to the question reported having
had multiple partners, ranging from 2 to 10 within the past year.  

Bannerman et al. conducted a study in 1997 in Ghana in Takoradi, Sunyani and
Tamale. These were regional capital towns of the Western, Brong Ahafo and Northern
regions, respectively. The study was conducted for the Planned Parenthood Association
of Ghana (PPAG) in collaboration with the Population Council. The study used a
purposive sampling procedure to select 750 never-married youth (250 from each town)
aged 12 to 24, stratified by the categories of those in school, in apprenticeship and
without any affiliation. Overall, 29% had more than one partner in the previous 30 days;
women were less likely than men.  

Sallar completed a case study of 1,415 (795 males and 620 females) adolescent
residents in Ketu South, Upper Denkyira, and Offinso electoral constituencies in the
Volta, Central, and Ashanti Regions, respectively, in Ghana. The study reported that
among adolescents aged 10-19 with previous sexual experience, 77% reported one
sexual partner, 15% reported 2-4 partners and the rest had five or more partners within
12 months preceding the study.  

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Students, Teachers and Parents in Selected Schools in Ghana.” World Education
Report.” August 2002. 1-19  

28 E. K. Glover, A. Bannerman, Pence B Wells, H Jones, R Miller, E Weiss and
J Nerquaye-Tetteh. “Sexual Health Experiences of Adolescents in Three Ghanaian

South, Upper Denkyira, and Offinso electoral constituencies in Ghana.” (dissertation,
University of British Columbia, Vancouver, 2001).
Contraceptive and Condom Use

This era of HIV infection would seem to demand protection against STIs through the use of modern contraceptives, including condoms. Research indicated that in 2000 Ghanaian youth awareness of contraceptives and where to obtain them was high. Seventy-six percent of females and 88% of males aged 15-19 were aware of at least one modern family planning method, but the knowledge was superficial. Twenty-one percent of females and 46% of males knew about the pill, but were unaware of the need for daily intake for effectiveness. This was supported by Anarfi’s study. Anarfi conducted a survey questionnaire to interview 1,147 street youth (60% males and 40% females) aged 8-19 in four market clusters in Accra. This street youth study showed that, although 83% of the respondents knew about condoms, only 28% of those sampled had ever used condoms and only 21% had used condoms in the three months prior to the survey. While Afenyadu and Goparaju’s study reported that condoms were the most used contraceptives (59%) among adolescents, several focus groups suggested that condom use was inconsistent.

Fayorsey’s study reported that 80% of the students surveyed knew about condoms, however, only 40% used condoms in their last sexual encounter. Thirty-nine percent said they had not used condoms and 21% did not respond to the question. The reasons for not using condoms were costs (10%), feeling too shy to buy them (29%) and


“not getting the real feeling” when using one.\(^{33}\) Glover et al. reported that only 50% of sexually experienced respondents had ever used a condom. This percentage increased with age and showed little difference by sex or social group.\(^{34}\)

Thus, it was evident that, although Ghanaian youth’s awareness of contraceptives was high; this was not translated into a high rate of actual use of condoms.

**First Sexual Intercourse**

Early initiation of intercourse has been a milestone in the physical and psychological development of youth in all societies. Unfortunately, this early sexual behavior increased adolescents’ potential risk for unplanned pregnancies, abortions and STIs.\(^{35}\) In 2000, Agyei conducted a fertility survey of 1,782 unmarried adolescents and young adults (953 males and 829 females) in the Greater Accra and Eastern regions of Ghana. The survey revealed that, overall, 66.8% of the males and 78.4% of the females were sexually experienced. The average age at sexual debut among those who had ever had sexual intercourse was 15.5 years for males and 16.2 for females.\(^{36}\) According to Clara Fayorsey (2003), 60% of the sexually active students had their first sexual


encounter between ages 15 and 19, with the average being 16 years. In Sallar’s study of 1,415 males and females aged 10-19 in Ketu South, Upper Denkyira and Offinso electoral constituencies, the median age of first sexual intercourse for males and females aged 10-19 in these three areas in Ghana was 16.

Nabila, Fayorsey and Pappoe conducted a study in 1995 to assess the reproductive needs of adolescents in Greater Accra, Central and Northern Regions. The study involved 323 males and females aged 12-24, including adolescent street traders in Accra. By age 15, 47% of males and 38% of females had had sex, and the median age at sexual debut among those between the ages of 12 and 20 in Kumasi and Accra was 16.

**Teenage Pregnancy**

The 2003 GDHS data indicated that unplanned pregnancies were common in Ghana, even with the steady rise in the level of contraceptive use over the last 15 years. Agyei reported that teenage pregnancy was high among adolescents in the Greater Accra and Eastern regions. Of the 829 unmarried females in these two regions, a third of those who had ever had sex had become pregnant at least once, and incidence

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37 C. Fayorsey. op. cit. 2003. 4.


40 GDHS 2003 op.cit. xxi.
of pregnancy was higher in urban areas than in rural areas. Approximately 47% of those who had ever been pregnant had had an abortion.\textsuperscript{41}

Afenyadu and Goparaju reported that, of the 195 sexually active female adolescents surveyed, 29% had been pregnant, and 19% said they had already had a child. The focus group affirmed that many of the teen mothers were not married nor financially supported.\textsuperscript{42} According to Glover et al., 98% of the young women said that they wanted children, but only 15% wanted one in the next two years. Thirty-five percent of sexually active females had been pregnant, and 87% of those who experienced pregnancy said that their last pregnancy was unwanted. Additionally, 70% of those surveyed either had or had attempted to have an abortion.\textsuperscript{43}

\textit{Vulnerability to STIs and HIV/AIDS}

An indication of vulnerability to STIs and HIV/AIDS was sex between strangers or individuals not in a committed relationship. This fact invariably posed a variety of risks including interpersonal violence.\textsuperscript{44} Afenyadu and Goparaju identified gonorrhea and HIV/AIDS as major STIs known to most adolescent participants. However, besides HIV/AIDS, respondents had only limited knowledge about other STIs. The junior secondary school (JSS) females reported the highest proportion of respondents (68%)

\textsuperscript{41} Biritwum Agyei et al. op. cit. 2000.


\textsuperscript{43} Bannerman Glover et al. op. cit. 2003. 36-37.

\textsuperscript{44} R. H. Hoyle, M. C. Fejfa and J. D. Miller 2000. op. cit. 1206.
with STI symptoms because of sex with strangers for money and forced sex. \(^{45}\) Glover et al. noted that 25% of males and 8% of females reported ever having had STI. Youth seemed less concerned with protecting themselves from STIs than from pregnancies. About 33% of sexually active respondents had used some type of contraceptive (generally condoms) to protect themselves from STIs the last time they had sex. A greater percentage of males (43%) than females (28%) said they had protected themselves.

Across social groups, in-school females (55%) were more likely to protect themselves than apprentices (43%) and unaffiliated youth (29%). The high levels of awareness of condoms and contraceptives did not result in widespread contraceptive use or condom use. Nearly universal awareness of HIV and other STIs did not persuade youth to practice protected sex or non-penetrative alternatives to sex. Therefore, a substantial fraction of youth experienced unwanted pregnancies, abortions and STIs.\(^{46}\)

**Peer Influence**

Adolescents’ susceptibility to peer influence reviewed in the literature indicated both positive and negative influences.\(^{47}\) Peer’s impact on attitudes of adolescent sexual activity differed for males and females and for virgins and non-virgins. The approval of

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\(^{46}\) Glover Bannerman et al. op. cit. 2003. 36-37.

friends to engage in sexual behavior tended to influence premarital sexual attitudes.48 Adolescents acquired friends who were similar to them or their old friends in one characteristic that was desirable. However, such friends might exhibit other undesirable characteristics.49 The impact of peer pressure on sexual behavior among male and female adolescents in the Dodowa community was reported by Afenyadu and Goparaju. They identified the driving forces of sexual activity among the adolescents to be ego boosting, associating with self-acclaimed “champions,” and delighting in being in relationships with rich men or their children. Sixty percent of the out-of-school adolescents reported that peer pressure was what drove their sexual activity.50

*Communication about Sex*

The quantity and quality of parent communication played a critical role in influencing their children and potentially reducing adolescent risky sexual behavior by fostering responsible sexual decision-making.51-52 Karim et al. reported that communication with family members regarding avoiding and delaying sex was associated with a lower likelihood of having sex for both genders, having fewer lifetime


partners among females, and increasing the likelihood of using a condom during at first sex encounter.\textsuperscript{53}

\textit{Policies and Programs}

By defining a child as any person younger than 18 in Section 28, the 1992 Constitution protected the child from engaging in work that might threaten his or her development, education, and health. Further protection from cruelty, torture, inhumane treatments, such as depriving the child from any social, economic, educational and medical benefits, was also stipulated in the Constitution.\textsuperscript{54} A cabinet status ministry in charge of women’s and children’s affairs was established, including a unit for girl-child education. The 1998 Children’s Act tried to prohibit acts that affected the mental and physical development of children by stipulating a minimum age at which a child could marry. Violations of these laws existed in some regions such as the three northern regions where formal education had reached less than 25\% of the children as of 2000.\textsuperscript{55} This was evidenced in the Trokosi system in Volta region, where girls were kept in servitude for crimes committed by members of their family, and in the female genital cutting practice in some parts of Ghana.\textsuperscript{56}

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\textsuperscript{53} AM Karim et al. op. cit. 2003: 15-17.


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The National Youth Policy (NYP) of 1999 recognized the major challenges facing the youth such as HIV/AIDS, harmful behaviors, violence, drug and alcohol abuse, teenage pregnancy and early marriage, and sought to involve and empower youth in decisions that affected them through the context of national integration and cultural identity. The National Youth Council, under the Ministry of Education Youth and Sports, was responsible for youth education and the development and implementation of programs. The 2000 Adolescent Reproductive Policy promoted youth rights for information and services, resulting in a healthy environment within the framework of government policy, under the National Population Council. 57 The council had a mandate to motivate youth to delay the onset of sexual activity from 12 years old in 2000 to over 15 in 2010 and to delay marriage beyond 18 years of age from 37% in 2000 to 50% in 2010, and 80% in 2020. The council sought to reduce the incidence of STIs, including HIV/AIDS, abortions and proportions of females marrying before their twentieth birthday. They also encouraged vocational and technical training for students who could not enter secondary and tertiary education and encouraged more women aged 15-19 to obtain secondary and higher education.

In response to the HIV/AIDS epidemic, a policy establishing the Ghana AIDS Commission under the Office of the President was charged with the coordination of all activities on HIV/AIDS in the country. The 2001 National HIV/AIDS and STI Policy strengthened the integration of HIV/AIDS education into the curriculum at the primary school level, 58 ensured access to prevention, management, testing, counseling and the


provision of care. It also supported programs for youth with HIV/AIDS, AIDS orphans and young people whose parents were HIV positive.
CHAPTER 3
CONCEPTUAL FRAMEWORK AND HYPOTHESES

This chapter reviews and critiques the established theories of health-related behavior and behavior change that were relevant for understanding the dynamics of risky sexual behavior among Ghanaian youth. These theories included the Health Belief Model (HBM), Social Cognitive Theory (SCT), Theory of Reasoned Action (TRA),


and Theory of Planned Behavior. Based on this critique of the established theories, an integrated model is proposed that would be more significant in influencing protective behavior. The chapter ends with a list of specific hypotheses that follow this conceptual framework. These were the hypotheses that were tested in this study.

THE HEALTH BELIEF MODEL

The Health Belief Model (HBM) was first proposed in the early 1950s by a group of social psychologists at the U.S. Public Health Service. It was the first behaviorally oriented conceptual model in health behavior. Specifically, the HBM emphasized the role of perceptions of vulnerability to an illness and the potential effectiveness of treatment in decisions regarding whether to seek medical attention.

According to HBM, the principal factors that determined the adoption of a preventive health action were:

1. Perceptions of vulnerability or susceptibility to a disease
2. Perception of severity of disease
3. Belief in the efficacy of recommended health actions

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4. Evaluation of costs of adopting the behavior

5. The presence of a stimulus or cue to action (such as a health communication or symptom)

**INDIVIDUAL PERCEPTION** **MODIFYING FACTORS** **LIKELIHOOD OF ACTION**

- Demographic Variables (age, sex, race, ethnicity, etc)
- Socio-psychological variables
- Perceived benefits of preventive action minus Perceived barriers to Preventive action

- Perceived susceptibility to Disease “X”
- Perceived Seriousness (severity) of Disease “X”
- Perceived threat of Disease “X”
- Likelihood of taking recommended preventive health action

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<tr>
<th>Cues to action</th>
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<tr>
<td>Mass media campaigns</td>
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<td>Advice from others</td>
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<tr>
<td>Reminder postcard from physician or dentist</td>
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<td>Illness of family member or friend</td>
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<td>Newspaper or magazine article</td>
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**Figure 1. The Health-Belief Model**

Janz and Becker's 1984 review\(^6\) of the research over a decade of attempts to test empirically the HBM (or elements of it) showed that HBM was a psychosocial model, and separate dimensions of HBM were frequently associated with whether persons had engaged in health-related behaviors. A perceived barrier was most often associated with a failure to adopt health actions in both retrospective and prospective studies. The Health Belief Model had been systematically used to model an individual’s decisions

about sexual practices. However, while the HBM had been useful in describing personal experiences with specific health practices, it had been considerably less useful in predicting the continuation of preventive behaviors over an extended period of time.

THE THEORY OF REASONED ACTION

Subsequent to the HBM, Fishbein and Ajzen developed the Theory of Reasoned Action (TRA) in 1980, which emphasized the role of personal volition in determining whether a behavior would occur. This "behavioral intention" could best be predicted by the person's expectancies regarding the outcome of a behavior and by any "normative" beliefs the person might have with respect to what "influentials" (example, peers) would do in his or her situation.

The normative component assessed people's perception of what other significant persons thought they should do and the degree of influence these beliefs were likely to


have on the choice of the action in question. This model was successfully applied in the areas of smoking,\(^{10}\) the intentions to engage in family planning,\(^{11}\) and in the use of Pap tests for cervical cancer.\(^{12}\) However, much of this research used college students as subjects, and less data were available related to other adult populations.

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**Figure 2. The Theory of Reasoned Action Model**

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THE THEORY OF PLANNED BEHAVIOR

Other attempts to expand The Theory of Reasoned Action in 1985 were incorporated in Ajzen’s description of the Theory of Planned Behavior (TPB). TPB was an extension of Ajzen and Fishbein’s Theory of Reasoned Action and was appropriate for both volitional and non-volitional behaviors. The TPB went beyond TRA in identifying determinants of attitude towards trying to perform the behavior.

![Diagram of the Theory of Planned Behavior Model]

This was based on the strength of the person’s attempt and the degree of control

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that the person had (workable plan, skills, knowledge, time, money, will power and opportunity), which might result in the likelihood of success or failure in achieving the goal. TPB was more appropriate when the probability of success and actual control over the performance of a behavior were less than perfect.

Godkin and Kok reviewed the range of studies examining the theory.\textsuperscript{14} The model was shown to perform quite well across several types of behavior in predicting intention to behave. However, in regard to predicting actual behavior, the models’ efficacies showed variation. For example, correlations were quite low for clinical and screening behaviors, but much higher for addictive and HIV/AIDS-related behaviors. The reviewers suggested that the addition of other variables, including role beliefs and “moral norms,” would make the models more robust.

SOCIAL COGNITIVE THEORY

Social Learning Theory (or Social Cognitive Theory, as it was sometimes called) was developed by Bandura\textsuperscript{15} in 1986 using several key concepts: incentives, outcome expectations and efficacy expectations. This approach argued that while cognitive factors such as knowledge, beliefs, and attitudes had important influences on behavior they alone could not always explain the full range of a person’s actions. It was


\textsuperscript{15} G. Kok, H. J. Hospers, P. Harterink, O. De Zwart. “Social-cognitive determinants of HIV risk-taking intentions among men who date men through the
not uncommon, for example, for people to act consciously in ways that were detrimental to their personal health. People continued to smoke, or drank and ate excessively, even though they were aware of the many dangers. The inconsistencies suggested that it might be necessary to add other variables to approaches that sought to explain complex behaviors.

Figure 4. The Social Cognitive Theory Model

Self-referent thoughts, such as “I can or cannot do a particular behavior,” might mediate the relationship between attitudes and beliefs and action. This kind of self-referent was called self-efficacy.\(^\text{16}\) It was described as “judgments about how well one could organize and execute courses of action required to deal with prospective


situations that contained many ambiguous, unpredictable, and often stressful elements. This theory was based on the belief that behavior was determined by expectancies and incentives. It stressed the inter-relationships among people, their behavior, and their environment through a process labeled “reciprocal determinism.” In other words, while the environment largely determined or caused behavior, the person in turn could act in ways to change the environment. This theory also held that behavior depended on a person’s “self-efficacy,” their confidence, and outcome expectations.

In this view, behavior was influenced by expectancies about (1) environmental cues (beliefs about how events were linked and what led to what); (2) consequences of one’s actions (how behavior was likely to influence outcomes); and (3) competency to perform the behavior needed to influence outcomes (self-efficacy). Incentive meant the value of a particular object or outcome, which might be health status, better looks or feeling better. For example, individuals would change lifestyle in a healthy fashion, provided the current lifestyle posed a threat to any personally valued outcome (such as health and appearance), or if particular behavioral changes reduced the threats, and if they were personally capable of adopting the new behaviors.

In this model, people’s perceptions of self-efficacy were learned not only from

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their own experiences, but also from observations of others, from social persuasion, and from judgments of their own physiological capabilities. In social learning theory, self-efficacy plays a major role in explaining an individual’s choices of activities, the level of effort expanded, and persistence with any activities in the face of obstacles or aversive experiences.19

Reviews of research in five health areas (smoking cessation, pain management, eating disorders, cardiac rehabilitation, and adherence to medical regimens) suggested that self-efficacy was a good predictor of successful behavior change in a variety of applications.20

CRITIQUE OF THE INDIVIDUAL THEORIES

John P Elder21 affirmed that many psychosocial theories current in health psychology and health education had limited applicability to developing country population and health issues, where more traditional cultures and subordination of individuals to community identity prevailed.


In the same vein, McKinglay and Marceau (2000)\textsuperscript{22} indicated that their criticism of epidemiology for being reductionistic, individualistic and driven to some extent by biomedicine applied as well to many theories and models current in the behavioral field. These theories and models of behavior change had limited applicability to public health behavior-change efforts, especially those in the developing world. Cohen, D., Scribner, R., Farley, T., (2000) and McKinglay & Marceau (1999)\textsuperscript{23} gave three reasons why such theories had limited applicability to the developing world.

First, these popular psychosocial theories were predicated on Western notions of individual autonomy and purpose. Concepts such as reasoned action and behavior intentions – as applied to individuals – perhaps held less relevance for populations in traditional communal cultures, where individual identity was grounded in family and community roles (e.g., King et al., 1995).\textsuperscript{24}

Second, many theories implied, or required, detailed thorough individual measurement. This made them less practical for people who were not accustomed to such instrumentation or had limited literacy or for programs with no resources for measurement.


Third, Western psychologically-based theories were often more connected to the understanding of individual cognitive processes than to intervention per se. As applied to health, they were more suited to interventions for small, high-risk segments of populations than for an entire population.

The above reasons suggested a need for a framework that would incorporate and integrate the concepts in a way that would be more directly applicable to the youth in Ghana. These led to the formulation of the integrated model for this study.

AN INTEGRATED MODEL APPLIED TO YOUTH FROM GHANA

Figure 6 below shows a model that integrated different leading theories of behavioral prediction and behavior change. The integrated model suggested that sexual behavior, the central focus, emerged out of a three-step process involving three sets of determinants. The first step was the most proximate determinant of behavior, which was intention. The second step identified the intermediate variables that were determinants of the proximate variables. These intermediate factors were perceived benefits and perceived barriers, perceived norms and perceived self efficacy.

The third step in the process addressed wider background factors, which were determinants of the intermediate variables. These background variables were gender,

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relationship status, access to information and supplies, and actual knowledge about health behavior.

THE PROXIMATE DETERMINANTS

Intentions to behave were predicted by expected outcome and influence of significant others. These proximate determinants of sexual behavior incorporated all the previous frameworks -- The Health Belief Model (HBM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Social Cognitive Theory (SCT).

Sociodemographic Sociocultural and Sociopsychological Variables

Gender
Relationship Status - Steady/Casual
Access to Information And Supplies
Actual Knowledge- HIV/AIDS, STIs

Perceived Benefits and Perceived Barriers
Perceived Norms -Peers, Community Expectations
Perceived Self efficacy

The Intermediate Variables

Wider Background Factors
The Proximate Determinants

Figure 5. An Integrated Model- Applied to Youth in Southern Ghana

THE INTERMEDIATE VARIABLES

In examining the three psychosocial intermediate variables as determinants of intentions, the perceived benefits and perceived barriers under laid the attitude to perform the sexual behavior (i.e. the person’s overall feelings of favorableness or
unfavorableness toward performing the behavior). The perceived norms concerning performance of the behavior included both perceptions of what others, especially peers, thought one should do as well as perceptions of what other community members were doing or their expectations. One’s perceived self-efficacy with respect to performing the behavior focused on one’s belief that one could perform the behavior even under a number of difficult circumstances. These intermediate variables predicting sexual behavior incorporated all the previous frameworks -- The Health Belief Model (HBM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Social Cognitive Theory (SCT).

WIDER BACKGROUND FACTORS

The determinants of the perceived benefits and perceived barriers were gender, relationship status (steady or casual encounter), access to information and supplies, including availability of clinics, and actual knowledge about health behavior. Gender roles demonstrated socialization, vulnerability and power roles in the relationship (steady or casual encounter), or in the community, and were therefore a determinant of both perceived norm and perceived self-efficacy.

Relationship status was also a predictor of perceived norm. Perceived benefits and perceived barriers regarding health behavior were functions of both actual knowledge about HIV/AIDS and STIs and motivation. These wider background factors as predictors of sexual behavior were all incorporated in the previous frameworks -- The Health Belief Model (HBM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Social Cognitive Theory (SCT).
RESEARCH MODEL AND HYPOTHESES

The conceptual framework led to thirteen hypotheses that guided the research. The expectation was that the research would find the following relationships, beginning with proximate determinants:

1. The likelihood of risky sexual behavior decreased as strong intention to avoid risky sexual behavior increased.

In terms of the intermediate variables:

2. Greater perceived benefits or lesser barriers were expected to increase the adolescent’s intention to avoid risky sexual behavior.

3. Greater respect for perceived norms would increase intention to avoid risky sexual behavior.

4. Greater perceived self-efficacy was expected to increase the intention to avoid risky sexual behavior.

In terms of wider background factors:

5. Greater female function in the relationship as a result of differences in socialization was expected to increase the perceived benefits and decrease the perceived barriers in avoiding risky sexual behavior.

6. Increased steady relationships and decreased casual relationships were expected to increase the perceived benefits and to decrease the perceived barriers to avoiding risky sexual behavior.
7. Increased access to information and supplies for protected sex was expected to increase adolescents’ perceived benefits and to decrease perceived barriers to avoid risky sexual behavior.

8. The greater the knowledge about HIV/AIDS and STIs, the greater the perceived benefits and decrease in perceived barriers in avoiding risky sexual behavior.

9. Increased female function in decisions about sexual behavior, as a result of differences in socialization, increased the perceived norm in avoiding risky sexual behavior.

10. Increased steady relationships and decreased casual relationships were expected to increase perceived norms in avoiding risky sexual behavior.

11. Increased female function in decisions about sexual behavior as a result of differences in socialization was expected to increase perceived self-efficacy in avoiding risky sexual behavior.

12. Increased access to information and supplies for protected sex was expected to increase perceived self-efficacy to avoid risky sexual behavior.

13. The greater the knowledge about HIV/AIDS and STIs, the greater the perceived self-efficacy in avoiding risky sexual behavior.
CHAPTER 4
GHANA - THE COUNTRY BACKGROUND

THE LAND AND THE PEOPLE

The Republic of Ghana was centrally located in West Africa and covered a total land area of 238,537 square kilometers. French-speaking countries bordered the country: Côte d'Ivoire to the west, Burkina Faso to the north and northwest, and the Republic of Togo to the east. The Gulf of Guinea lay to the south and stretched across the 560 kilometers of the country's coastline.

Ghana was roughly divided into three vegetation zones. The coastal Savannah was characterized by shrubs and mangrove swamps. There was a forest belt that gradually narrowed into a dry Savannah toward the northern half of the country. Ghana had a tropical climate, but temperature and rainfall varied by distance from the coast and elevation. Ghana had an annual average temperature of about 26°C (79°F) and two distinct rainy seasons, April to June and September to November.\(^1\) Annual rainfall ranged from about 1,015 millimeters (40 inches) in the north to about 2,030 millimeters (80 inches) in the southwest. The harmattan, a dry desert wind, blew from the northeast between December and March. It lowered the humidity and created very warm days and

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\(^1\) Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research Legon, Ghana and ORC Macro. (MI). 2004. Ghana Demographic and Health Survey. (Calverton, Maryland: GSS and MI, 2003), 1.
Ghana's demography was similar to the demography of most developing countries. For example, its population was relatively young. According to the 2000 population census, children aged between 0 and 4 years constituted 14% (2.73 million)

\[\text{Source: } \text{www.greenwichmeantime.com}\]

**Figure 6. Map of Ghana**

cool nights in the north. In the south, the effects of the harmattan were felt mainly in January.\(^2\)

\(^2\) Ibid., 1.
of the total population (19.5 million). Those aged between 0 and 14 years represented 41% (8.02 million) of the population.³

The young age structure of the population reflected its high growth rate. The first national census of the population of Ghana conducted in 1921 put the population at 2.2 million. Since then, subsequent censuses had shown a five-fold increase in the population to 12.2 million in 1984. By 2004, the population was estimated at 20.8 million with an annual growth rate of about 1.4%.⁴

Another change in the population was the increased level of urbanization. In the 1960s, less than a quarter of the population lived in urban areas. By 1984, that number had increased to nearly a third. Rural-urban migration had been an important feature of this change. It had brought most of the young people from the rural areas to the principal urban centers.

POLITICAL HISTORY

Ghana gained its independence from British rule on March 6, 1957 and became a sovereign state in the British Commonwealth of Nations on July 1, 1960. The administrative and political capital of the country was Accra with a population of 1.7 million (GSS, 2002). Ghana was a constitutional democracy and operated a multi-party democratic presidential system of government following the promulgation of the 1992 Fourth Republic Constitution of Ghana. The country had an executive presidency


⁴ Ibid. 2.
elected for four years with a maximum of two terms. There was a parliament elected every four years, an independent judiciary, and a vibrant media.

The population was made up of several ethnic groups. The Akans constituted the largest ethnic group (49%), followed by the Mole-Dagbon (17%), Ewe (13%), and Ga-Dangme (8%). Various smaller ethnic groups were also found in many parts of the country (GSS, 2002).

Ghana was divided into 10 administrative regions: Western, Central, Greater Accra, Volta, Eastern, Ashanti, Brong Ahafo, Northern, Upper East, and Upper West. The regions were further divided into 138 districts to ensure efficient and effective administration at the local levels.

ECONOMIC HISTORY OF GHANA

The economy of Ghana had been mixed since independence in March 1957. For many years the state-controlled institutions paid little attention to the private sector. However, the private sector had been identified and acknowledged recently as the engine of growth for the economy. This had resulted in mainly a small capital-intensive modern sector focusing on mining and light industrial activities, a growing informal sector of small businessmen, artisans and technicians, and a large agriculture sector. Agriculture was the mainstay of the economy; it used to employ 62.2% of the labor force against 10% and 27.8%, respectively, employed by industry and services. By 1997, however, the percentage of the labor force employed by agriculture and industry

\[5\] Ibid., 2.
had declined to 55.9% and 7.2%, respectively, while those employed by services had increased to 38%.6

The leading exports of the country were cocoa, gold, and timber. In recent times, the economy had diversified and included exports of non-traditional commodities such as pineapples, bananas, yams, and cashew nuts. Tourism was fast gaining prominence as a foreign exchange earner. The overriding objective of the Government of Ghana's economic development program was poverty reduction and general improvement in the welfare of all Ghanaians.

In 1995, the government developed the Vision 20207 strategy for poverty reduction. This was followed in 2003 by Ghana’s Poverty Reduction Strategy I (GPRS I 2000-2005) paper directed towards the attainment of anti-poverty objectives of the UN’s Millennium Development Goals (MDGs). Currently, GPRS II (2006-2009) had shifted strategic focus and emphasized accelerated economic growth for Ghana to achieve middle-income status within a measurable planning period. This was in addition to integrated rural development, expansion of employment opportunities, and improved access, especially by the rural and urban poor, to basic public services such as education, health care, water and sanitation, and family planning services.

The percentage contribution to Ghana’s Gross Domestic Product (GDP) by each sector of Ghana’s economy between 1998 and 2004 showed that agriculture had

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6 Ibid. 2.

consistently contributed about 40% of GDP. The remaining 60% was shared between the industry and services sectors.\textsuperscript{8}

Table 1. The State of the Ghanaian Economy in 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Services</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>36.7</td>
<td>29.0</td>
<td>25.1</td>
</tr>
<tr>
<td>1999</td>
<td>36.5</td>
<td>29.0</td>
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</tr>
<tr>
<td>2003</td>
<td>36.1</td>
<td>29.8</td>
<td>24.9</td>
</tr>
<tr>
<td>2004</td>
<td>36.7</td>
<td>29.5</td>
<td>24.7</td>
</tr>
</tbody>
</table>


The Ghanaian economy experienced a sharp decline between the late 1970s and the early 1980s. In order to reverse this trend, the government introduced the Economic Recovery Program (ERP) to help stabilize the economy and create the conditions necessary for the restoration of growth. Many industries, especially those in the service sector, had benefited from the stable macroeconomic environment.

Besides the economic policy reorientation and its gains, the government had also entered into many international conventions to protect the rights of its workers. One

such convention was the United Nations Convention on the Rights of the Child, which touched on economic exploitation of "children." It specified that it was a "child's" right to be protected from work that threatened his or her health, education or development and enjoined status parties to get the minimum ages for employment and to regulate working conditions.

The Ghanaian Labor Decree of 1967 (N.L.C.D. 157) stated that "juveniles" under 16 years of age were not allowed to enter into contracts for clerical employment. Section 44 of the Decree also prohibited the employment of a child "except where the employment was with the child's own family and involved light work of an agricultural or domestic character only." Sections 45 and 46, however, made room for employing "a young person" (15 - 18 years) on night or underground duties. It also enjoined the keeping of a register of the dates of birth of "young persons" employed in industrial undertakings. Contraventions of these were considered as offences, which attracted fines.

Thus, the existing policies permitted 'light' work only within the family until the apparent age of 15 years when basic education was deemed to have ended. Beyond this age, working for remuneration was permitted within limits to "young persons." Child labor, however, existed and was often attributed to genuine poverty within the family. Under such circumstances, society accepted the notion that affected children earn their own upkeep. Sometimes, they were required to contribute to the family income. Child labor, which generally prevailed in the informal sector, often took the forms of petty trading, domestic work, shoe shining and newspaper selling, among others.
SOCIO-ECONOMIC FACTORS:

Size of Youth Population

According to the 2003 Ghana Demographic and Health Survey (GDHS), the proportion of the population under 15 years had decreased from 47% in 1970 to 41% in 2000. However, the proportion of people 65 years and older had increased from less than 4% to a little more than 5% over the same period. These changes in age structure could be attributed to declining fertility and improvements in the health conditions of the people. There was an increase in life expectancy for both males (from 50 to 55 years 1984-2000) and females (from 54 to 60 years over the same period).9

Occupation/Employment

In formal sector employment, a substantial gap existed in the occupational distribution of the sexes in Ghana. Due to the generally low female education rates and the disparity in higher education between opportunities for boys and for girls, females suffered restricted access to employment opportunities. Consequently, a large proportion of females were engaged in trading, farming, domestic sciences, dress-making, hair-dressing and family occupations.

Under the Government's National Service Scheme, young people in Ghana, both male and female, were exposed to the world of work and responsibility upon completing secondary and university education. These youths were assigned to work in various government departments and agencies for periods ranging from one to two years. This opportunity usually enabled some to be assigned to the various regions to

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9 GDHS, 2-3.
do community work in the rural areas. During the period of their national service, most adolescents took responsibility for their own lives and decision-making.

Marriage/Early Childbearing

The Ghanaian society was pro-natalist as well as adult-oriented. Within the five institutions of the Ghanaian social structure (the family, education, religion, occupation, and politic), the child/adolescent had very little or no political rights. The child and adolescent was seen but not heard. Within the family circle especially, a child or an adolescent was not permitted to give an opinion or a view.

Socialization took place primarily within the framework of the extended family. One's formal education was expected to contribute to the socialization process. In the traditional society the adolescent was nurtured to be God-fearing, respectful of adults, economically industrious, selfless, sociable, and of sound moral balance. The youth were also expected to exhibit traits of honesty and integrity as well as good health and vitality. The 1993 Act amending the Criminal Code fixed the legal age of sexual consent at 14 years. However, the legal age for marriage was 18 years for girls and 21 for boys, although customary practices in certain parts of the country led to early betrothal of girls.\footnote{Ghana Law Reform Commission, \textit{Annual Reports}. (Accra 1971, 1979-1982. 1996).} Marriage was both early and universal, but wide variations existed; the lowest median age was found in the Upper East Region (17.7), and the highest median age was in the Eastern Region (19.8). Early age at first marriage normally prolonged the reproductive period. This gave rise to higher levels of fertility in an
environment where contraceptive use was low. As a note of comparison, age at first marriage in Britain and Morocco was 23 and 21 years of age, respectively.

The Ghanaian society placed a lot of pressure on the female child to marry early and to have children soon after marriage. The Ghana Demographic and Health Survey conducted in 2003 indicated that about 45% of young women were already mothers by the age of 19 years. In the traditional Ghanaian society, childlessness was abhorred, and there was pressure on girls to start early childbearing.

Cultural Factors

While traditional society made provisions for training its young members in matters concerning reproductive health and sexuality, modern society seemed to abhor the very idea of educating youth about their sexuality. In the past, girls were not expected to have sexual relations before their puberty rites were performed. Such rites took place shortly after they had attained the age of menarche, which was the onset of puberty. Contravention of this requirement for chastity was regarded as a public offence. The puberty rites practice was particularly widespread among the Krobo ethnic groups of the southern section of the country where premarital chastity was valued.¹¹

Over time, however, this trend had changed. There was now an increase in sexual pervasiveness to the point that premarital pregnancy had become an accepted fact. This

change was partially the result of traditional custom that placed emphasis on children as the *raison d'être* of marriage. It also stemmed from modern values brought in the wake of increasing urbanization. The comparative freedom with which young persons began to enter sexual unions meant that their parents were no longer able to exercise much control in the selection of their marital partners. This situation was compounded further by the gradual breakdown of the extended family system. Coupled with the general exuberance of youth and their high amenability to peer pressure, this background placed the youth in Ghanaian society in a vulnerable situation.\(^\text{12}\)

It was not surprising that early onset of sexual activity, teenage pregnancy, abortions, incidence of STDs/AIIDS, drug abuse and child abandonment among adolescents were all on the increase. Evidence of this could be found in the 2003 GDHS. One in five (2\%) adolescent girls aged 15-19 years was pregnant or already a mother. In the rural areas, the problem was even more pronounced; 26\% of teenagers from the rural areas had already begun childbearing. The figure for their urban counterparts was 16.4\%.

Religion

Three major religious groupings could be found in Ghana: Christianity, indigenous/traditional religion, and Islam. Evidence from the third Ghana Living Standards Survey (GLSS, 2003) indicated that 64\% of the heads of household in the country were Christians. The predominant Christian groups were the Catholics,

Methodists, Presbyterians, Anglicans, Baptists, Pentecostals and many spiritual churches. Over the years the teachings of these different religious denominations had a profound influence on the country's population program. The most notable among them had been the non-acceptance of artificial contraception by the Catholics.

The indigenous Ghanaian religion consisted of a number of traditional beliefs and patterns of religious practices and general behavior. Although these had been vaguely conceptualized, their evidence could be found in the proverbs, common sayings, myths, and folklore of the people. The central concern and motivation of the religious aspiration of the adherents of this form of worship included the attainment, maintenance, protection and maximum increase, and enjoyment of life and vitality in all forms and functions, with a particular accent on fertility.\(^{13}\) The Ghana Living Standard Survey indicated that 18% of the heads of households were practitioners of traditional religion or animists.

Fourteen percent of the households in Ghana were followers of the Islamic religion \(^{14}\) (GDHS, 2003). The largest concentration of Moslems was in the Northern parts of Ghana. In the southern parts, especially in the larger cities of Kumasi and Accra, Moslems communted together in settlements referred to as “Zongos.” In these Zongo settlements, residents lived as distinct communities with very large extended families, most often in large compound houses. The teachings of Islam had favored large family sizes. Lately, however, the Moslem Family Services Organization began


\(^{14}\) GDHS 2003
promoting the use of contraceptives in these Zongo communities, especially among the youth.

POLITICAL FACTORS

National

Ghana was a unitary state with constitutional powers vested in three separate and distinct branches of the government: the Executive, Parliament and the Judiciary. Under this three-tier system of government, Parliament made and approved all laws pertaining to the governance of the country. The Judiciary interpreted these laws, and the Executive arm together with its functional agencies promulgated the laws and policy direction of the government. National laws and major policy decisions of the government, including treaties, should be ratified by Parliament. In the recent past, Parliament had emphasized the Country's Revised Population Policy. Adolescent reproductive health issues had been specifically targeted under the programs earmarked for implementation. Ghana is a unitary state, and most laws and policies relating to adolescents were applicable without exception throughout the country.

Regional

Under the system of governance, national authority was represented at the regional level by the various government departments and agencies. Their functions and responsibilities were as follows:

- To interpret and implement government policies in the regional policies
- To transmit to the government the people's reaction and responses to authorities and to supervise development programs and activities of the district assemblies or local government functionaries in the regions.
Social Significance of the Public Health Challenge

According to Ankomah, the HIV/AIDS epidemic continued to pose a major public health threat, especially in the developing world.\textsuperscript{15} As of December 2001, 40 million cases of HIV/AIDS had been reported worldwide, with 95\% of new cases occurring in developing countries. UNAIDS estimated that five million persons were newly infected with HIV during 2001 with three million related deaths. Later it was estimated that more than 28 million persons were living with HIV/AIDS in sub-Saharan Africa with 9\% of the adult population, ages 15 to 49, being infected.\textsuperscript{16}

According to the Ghana Demographic and Health Survey (2003), most women (98\%) and men (99\%) had heard about AIDS. This indicated that awareness of AIDS in Ghana was universal. However, the depth of their knowledge was somewhat limited. Fourteen percent of women and 9\% of men stated that they did not know if AIDS was avoidable, and one in five women and one in nine men did not know of any way to avoid contracting AIDS. Fifty-eight percent of both women and men believed that they had no chance of contracting HIV/AIDS. Respondents who believed that they had no risk or only a small risk of contracting HIV/AIDS were less likely to change their behavior than those who believed that they had a moderate or great risk of contracting the disease.\textsuperscript{17}


\textsuperscript{17} Ghana Statistical Service (GSS) and Macro International Inc. (MI). 2004 \textit{Ghana Demographic and Health Survey}. (Calverton, Maryland. GSS and MI, 2003), 207.
The HIV/AIDS pandemic was one of the most important and urgent public health challenges facing governments and civil societies around the world. HIV accounted for the highest number of deaths by any single infectious agent. Since the beginning of the pandemic, AIDS had claimed more than 25 million lives; more than 14 million children had lost one or both parents to AIDS. Every year an estimated 3 million people died of AIDS and 500,000 of them were children under the age of 15 years.

Nearly 5 million persons (4.2 million adults and 700,000 children) were newly infected with HIV each year, and 95% of them belonged to developing countries. Almost 50% of newly HIV-infected adults in 2003 were women, and 50% were young adults in the 15-24 age group.

Unsafe sex was the predominant mode of transmission of HIV worldwide accounting for 80-90% of infection. Six million people in developing countries had HIV infection and urgently needed antiretroviral treatment to keep them alive and healthy, but fewer than 300,000 were being treated.

Adolescents were at the center of the pandemic in terms of transmission, impact and potential for changing the attitudes and behaviors that underlay the transmission of this infection. Nibla et al contended that sexual activity among adolescents took place quite early in life and often outside marriage\(^\text{18}\). In the same vein, Brookman stated that sexual thoughts, feelings and behaviors, though present throughout life, often were

accentuated during youth. Numerous surveys had suggested increased sexual experimentation by increasing numbers of teenagers at younger ages each year.

Teenage pregnancies were also common occurrences all over the world. Cates estimated that about 15 million teenage women gave birth each year, and these formed about 20% of all births worldwide. Furthermore, contraceptive use among sexually active adolescents was low and, consequently, unwanted pregnancies, illegal abortions and maternal deaths were common problems of adolescent reproduction.

In Ghana, data from Ghana Statistical Service showed that there were 5,742,636 people aged 10-24 years. This accounted for 30.4% of the population. In pursuance of this, one of the policy objectives of the 1994 Revised Population Policy was “to educate the youth on population matters which directly affect them such as sexual relationships, fertility regulation, adolescent health, marriage and child bearing, in order to guide them towards responsible parenthood and small family size.”

In Ghana, adolescent reproductive practices and the health problems that were associated with them did not vary significantly from other sub-Saharan African countries. Premarital sex and early childbearing was widespread. Half of the adolescents aged 15-19 already had some sexual experience in Ghana, and 51.4% of it


21 Ibid.

22 Ghana Statistical Service op cit. Table 2

23 Government of Ghana, op.cit. p.28
was outside marriage. According to the Ghana Demographic and Health Survey (2003), 14% of all adolescents started childbearing or were pregnant with their first child at the time of the survey. The percentage of adolescents who had begun childbearing increased with age from 2% among women aged 15 to 32% among those aged 19. Forty-five percent of 19 year old teenagers were either mothers or pregnant for the first time.

Contraceptive use was low among sexually active adolescents. In 1999, data showed that contraception among married women aged 15-19 was 19% and 26 percent among women aged 35-39. As a result, teenage pregnancy was high and resulted in increasing dropout rates in schools and colleges. The dropout rate among adolescent females was particularly high. For many of the teenagers engaged in unprotected sex, the incidence and spread of STDs and HIV/AIDS among them were high. In addition, criminal and illegal abortions had become common occurrences in Ghana although these acts were often shrouded in secrecy.

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24 Ibid.


CHAPTER 5
RESEARCH DESIGN AND ANALYTIC TECHNIQUES

STUDY AND SAMPLING DESIGN

This was a cross-sectional study to gather information on adolescents’ knowledge, attitudes and behavior in selected regions of Ghana. The respondents were recruited using a combination of stratified and random sampling from high schools, youth clubs and youth workshops in Ghana.

The researcher decided on a sample size of approximately 300 adolescents to represent adolescents of the ages 10-24 years old in the research areas. This sample targeted (a) youth in school; (b) youth in training as apprentices in trades such as automobile mechanics, traditional weavers of kente and adinkra cloth, and construction workers; and (c) petty traders selling handkerchiefs and iced water as well as youth assisting traders to cart their goods. The actual size of the targeted populations of youth in the regions was determined with the assistance of the ministries in charge of education, youth and labor.

Based on the size of the regional populations, youth in school were selected in a two-phase process. First, stratified sampling of the population of rural, semi-urban and urban town senior and junior secondary schools was used to select a sample of schools. This was followed by a random selection of students from the selected schools. Then,
again using randomization techniques, interviewers selected the required number of apprentices from the training centers and petty traders from marketplaces to complete the surveys. There were some difficulties in recruiting and surveying the petty traders since they were busily selling their products and services while completing the survey. However, all the surveys were completed satisfactorily.

Overall, 58% of the youth who were sampled were in-school and 42% out-of-school. In terms of gender, 65% of the sample was female and 35% male. In terms of age, 51% were 20 years of age or younger, and 49% were older than 20.

The software used to generate the random numbers was Epi Info. This was a database and statistical analysis package developed by the United States Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO). The software was available for free from the CDC website.

SURVEY AREA

The survey was conducted in four cities -- Accra (Greater Accra regional capital), Kumasi (Ashanti regional capital), Sunyani (Brong Ahafo regional capital), and Ho (Volta regional capital). These cities in Ghana were also the focal point for regional administrative and economic activities. Three other study areas were towns representing peri-urban or rural areas -- Elmina in Central Region, Dodowa, and Somanya in Eastern region.

The southern regions of Ghana were selected for the study because they were predominantly Christian and more open to surveys involving human sexual experience as compared to the northern regions, which were mostly Moslem and less open to questions
about human sexual experience. The survey area was determined after consultation with the Young Women’s Christian Association (YWCA) of Ghana. The YWCA has active branches and youth reproductive health programs in these study areas and provided liaisons with schools and other youth organizations.

Fig 7: Regional Map of Ghana

SURVEY INSTRUMENT

The primary survey data were collected using a 100-item, self-administered,
structured questionnaire (see Appendix). The survey requested information about social-demographic characteristics, living status, partner characteristics, and sexual and contraceptive behaviors. The socio-demographic questions asked the age, sex, education, vocation, family income and religion. Other sections of the questionnaires required participants to indicate their agreement or disagreement with health seeking behaviors, their reasons for having or not having sex, the number of their sexual partners, whether they had any sexually transmitted infections (STIs), their knowledge of and attitudes towards sex, abortion, contraceptives and sexual experiences.

DATA COLLECTION

The survey was designed to gather information about adolescents aged 10-24 years, including in-school and out-of-school youth, youth workers and trade apprentices. Permission for the survey of in-school participants was obtained from the heads of the schools, and the questionnaires were self-administered. Trained assistants administered the survey to out-of-school adolescents. Volunteers and teachers were trained to follow-up with each respondent, to assist with any questions or difficulties and to collect the completed surveys. Only sixteen questionnaires were not completed out of the 300 questionnaires that were distributed for a 93% total response rate.

Participation was voluntary, and all participants consented to participate. To ensure anonymity, no identifying data were collected.
SPECIFIC OPERATIONAL MEASURES

Risky Sexual Behavior (The Dependent Variable)

In this research, a sexual behavior scale that contained factors associated with risky sexual practices was used as the dependent variable. The questions constituting the index were adapted from the Youth Risk Behavior Surveillance (YRBS) that was conducted by the CDC. Sexual risk behaviors were evaluated from the respondents’ responses to the following five risky sexual behavior questions (questions 31-32, 44-45, and 52):

Q31. At what age did you first have sexual intercourse? Sexual intercourse before age 13 years was coded as (1). If it was 13 years or after, it was coded (0).

Q32. About how many times over the past month have you had sexual relations? If the respondent answered no, it was coded (0). If the answer was one, two, three or more than three, it was coded (1).

Q44. Are you sexually active? Responses were dichotomized as (1) for yes or no, not at the present time or (0) for no, never had sexual intercourse.

Q45. How many sexual partners have you had in the past year? Responses were dichotomized as (1) for four or more sexual partners or (0) for three or fewer.

Q52. Are you currently using any means of contraception? Unprotected sex was coded as (1). The answer was coded (0) if they never had sex or protected themselves.

The answers to these five items were summed to derive a total risky sexual behavior score for each participant (range = 0-5). Higher scores (3-5) indicated higher levels of risky sexual behavior. Cronbach’s alpha was 0.69 and indicated moderate to high internal consistency.

Predictor/Independent Variables

A number of components of the health belief model, theory of planned behavior and theory of reasoned action were measured that were associated with intentions to engage in risky sexual behavior among adolescents. Other variables for analysis were selected based on Social Cognitive Theory. According to these theories, sexual behavior was associated with the psychosocial and behavioral characteristics of individuals and their social environment. Charles Abraham and Paschal Sheeran argued that predictive validity of the theories of reasoned action and planned behavior would be enhanced by considering key ideas of goal theories. These ideas highlighted the importance of constructing action as a process of behavioral selection designed to achieve actors’ goals, assessing the extent to which people planned how to perform action sequences implied by their goals, using intention stability to index the prioritization of goals, and analyzing the goals underlying attitudes and intentions.

Proximate Determinants

According to the theories of planned behavior and reasoned action, the proximate determinant of risky sexual behavior was intention. The index of intention to have or not

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have risky sex was based on five questions that indicated abstaining and responsibility. The responses to the five questions that were designed to elicit adolescents' reason for not having sex (questions 24-28) were all coded (1) for agree, (2) for disagree, and (3) for don’t know:

Q24. I realized that sexual responsibility meant abstaining from sex until in a mutually monogamous marriage.

Q25. If a young man made someone pregnant, the child was his responsibility as well as the mother’s.

Q26. Sex before marriage was never alright.

Q27. Sex before marriage was alright if the couple planned to marry.

Q28. Sex before marriage was alright whether the couple planned to marry or not marry.

To analyze the answers, the missing response was first recoded from to 0. Then the answers to these five items were summed to derive a total intentions score for each participant (range = 4-14). Higher scores (8-14) indicated intentions to engage in risky sexual activities, while low scores (4-7) indicated the desire to abstain from risky sexual activities.

Intermediate Variables

The three intermediate variables, which were determinants of intentions, were perceived benefits and perceived barriers, perceived or subjective norms, and perceived self-efficacy. The questions were designed to elicit adolescents’ reasons for not having sex.

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The responses to the three questions that indicated the respondent’s perceived benefits and perceived barriers (questions 19 and 21-22) were all coded (1) for agree, (2) for disagree, and (8) for don’t know:

Q19. I am afraid of the (sexual) experience?
Q21. I am afraid of the possibility of catching HIV/AIDS?
Q22. I do not want to catch sexually transmitted disease (STD)?

To analyze the answers, the ‘don’t know’ response was first recoded from (8) to (0). Then the answers to these three items were summed to derive a total perceived barriers score for each participant (range = 0-6). Higher scores (4-6) indicated lack of understanding of the barriers to engage in risky sexual activities, and lower scores (0-3) indicated an understanding of the perceived barriers to engage in risky sexual encounters. Cronbach’s alpha was 0.53 and indicated moderate internal consistency.

Perceived subjective norm was defined as a person’s opinion about the most significant others who were important and who influenced the participant’s thinking. Seven questions (questions 14-15, 17, 20, 23, and 29-30) were designed to elicit adolescents’ reasons for not having sex that would indicate the respondent’s perceived norms. The responses to five of these questions (questions 4-15, 17, 20 and 23) were all coded (1) for agree, (2) for disagree, and (8) for don’t know. The responses to the two other questions (questions 29-30) were coded (1) for disagree, (2) for agree, and (8) for don’t know. The seven questions were:

Q14. It was my religious conviction?
Q15. Would not want to disappoint parents?
Q17. It was my respect for boyfriend or girlfriend?
Q20. I have not met the right person?
Q23. I respect myself and my classmates?
Q29. Sex before marriage was alright for males not for females?
Q30. Sex before marriage was alright for females not for males?

To analyze the answers, the missing response was first recoded from 0. Then the answers to these seven items were summed to derive a total perceived norm score for each participant (range = 7-35). Higher scores (15-35) indicated a lack of understanding of perceived norms to avoid risky sexual activities, while lower scores (7-14) indicated an understanding of perceived norms to avoid risky sexual encounters. Cronbach’s alpha was 0.58 and indicated moderate internal consistency.

Perceived self-efficacy focused on the respondent’s belief that he or she would or would not perform the behavior under a number of difficult circumstances. The responses to two questions (questions 13 and 16) that indicated the respondent’s determination to refrain from risky sexual behavior were coded (1) for agree, (2) for disagree, and (8) for don’t know. The two questions were:

(Q13). My own moral values or convictions.
(Q16). I don’t think I am not ready or mature enough.

To analyze the answers, the ‘don’t know’ response was first recoded from (8) to (0). Then the answers to these two questions were summed to derive a total perceived self-efficacy score for each participant (range = 0-4). Higher scores (3-4) indicated lack of perception of self efficacy to avoid risky sexual activities, while lower scores (0-2) indicated perceived self efficacy to avoid risky sexual encounters. Cronbach’s alpha was 0.38 indicated low to moderate internal consistency.
Wider Background Factors

The wider background factors, which were the determinants of attitude or perceived benefits and perceived barriers, were gender roles, relationships status (steady or casual encounter), access to information and supplies and actual knowledge about sexual health behavior.

Gender/sex function from differences in socialization (question 1 asked for gender) demonstrated socialization, vulnerability and power roles in the relationship. Generally males engaged in sexual behaviors at an earlier age than females. As prior research had indicated, males were more likely to have multiple partners, and their sexual activities were more often associated with risk factors such as alcohol and drug use.\(^5\)

Relationship status was indicated by the responses to three questions (questions 33 and 36-37). These questions were:

(Q33). Do you have a steady girlfriend/boyfriend now? Responses were coded (1) for yes or (2) for no.

(Q36) Are you presently engaged to or have you discussed marriage with your partner? Responses were coded (1) for yes or (2) for no.

(Q37) How soon do you think you are likely to get married? The responses were coded (2) to (4) for every response that indicated the intent to marry sooner or later or (1) when the respondent indicated that he or she did not plan to marry.

Responses to these three questions were summed to derive a total relationship status score for each participant (range = 3-8). Higher scores (6-8) indicate a lack of commitment in the relationship and lower scores (3-5) indicated understanding and

---

commitment to avoid risky sexual encounters. Cronbach’s alpha was 0.48 and indicated low to moderate internal consistency.

The index of access to information and supplies was based on responses to the following three questions (questions 54-55 and 74). For each question, respondents checked all of the answers that applied, and every positive response was coded as (1).

(Q54) Where do you get your contraceptives? The eight possible choices were: (a) Chemist shop/Pharmacy, (b) Family planning clinic in the hospital, (c) Family planning clinic PPAG, (d) YWCA outreach counselor, (e) Doctor; (f) Nurse, (g) Friend, and (h) Relative.

(Q55) Why do you go there for family planning services? The eight choices were: (a) It was close to where I live; (b) It was not in my neighborhood; (c) The staff there really care about adolescents; (d) The staff there don’t tell your parents you came; (e) My friends go there; (f) It was the only clinic I know about; (g) There were different methods available; (h) It was free.

(Q74) What is/was your principal source of information on sex? The seven choices were: (a) Family life education in school; (b) Parent(s); (c) Sister/brother; (d) Movies/video; (e) Books, Magazines or Pamphlets; (f) Friends; and (g) Church.

The positive (1) for Yes and (2) for No answers were summed to derive a total of access to information and supplies score for each participant (range = 12-44). Higher scores (19-44) indicated lack of access to information to avoid risky sexual activities, while lower scores (12-18) indicated access to information and supplies to avoid risky sexual encounters. Cronbach’s alpha was 0.61 and indicated moderate internal consistency.
The index of actual knowledge on the subject of HIV/AIDS and STIs was based on 14 questions (questions 38, 46-48, 59-68). Different sets of possible responses and coding were used, and the questions are grouped below by the set of responses.

The respondent could check multiple answers to three questions (38, 48 and 59). Each positive response to these questions was coded (1).

(Q38) Name any diseases that may be transmitted through sexual intercourse. The four possible choices were: (a) Gonorrhea, (b) Herpes, (c) Syphilis, and (d) HIV/AIDS.

(Q48) Please tell me what methods you know (spontaneous response). The nine choices were: (a) Pills, (b) Diaphragm, (c) IUD, (d) Rhythm, (e) Injectable, (f) Sterilization, (g) Condom, (h) Abstaining from sex, and (i) Foam tablets.

(Q59). If you use condoms what are the chances that you or your partner can get pregnant? The four choices were: (a) No chance, (b) A little chance, (c) 50-50 chance, and (d) Pretty good chance.

The possible responses to 11 questions were yes, no, and don’t know. For seven of these questions (questions 46-47, 60-63, and 67), a positive response was coded (1) and a negative coded (0). The other four questions (64-66 and 68) were coded the other way with a negative response receiving (1) and a positive (0). For all 11 questions, a don’t know response was coded (8).

(Q46). A girl can get pregnant the first time she indulges in sexual intercourse.

(Q47). Are you familiar with any methods that may be used to prevent pregnancy?

(Q60). Have you heard about a disease called AIDS?

(Q61). Can a person get AIDS from sexual intercourse?
(Q62). Can a person get AIDS from a healthy looking person?

(Q63) Can babies be born with AIDS?

(Q64) Are people who wash carefully after sex safe from AIDS?

(Q65) Can traditional healers cure AIDS?

(Q66) Was there a vaccine for AIDS?

(Q67) Does the use of a condom during sexual intercourse reduce the risk of getting AIDS or other STDs?

(Q68) Can a condom be used for more than one sexual encounter?

To analyze the answers, the ‘don’t know’ response was first recoded from (8) to (0). Then the answers to these 14 questions were summed to derive a total knowledge on the subject of HIV/AIDS and STIs score for each participant (range = 15-64). Higher scores (25-64) indicated lack of actual knowledge of HIV/AIDS and STIs, and lower scores (15-24) indicated possession of actual knowledge of HIV/AIDS and STIs and how to avoid risky sexual encounters. Cronbach’s alpha was 0.70 and indicated moderate to high internal consistency.

DATA ANALYSIS

The next chapter is a descriptive (univariate) presentation of the data. The following two chapters present the data analysis. The analysis was carried out in two parts in order to understand the relationship among all the model variables with respect to the dependent variables of interest in this study. First, bivariate analyses or cross tabulation, chi-square tests and p-values were calculated to test the hypotheses. Second, multivariate analyses using hierarchical logistic regression analyses were computed to determine which combination of risk and protective factors were the best predictors of
risk sexual behaviors. This type of regression analysis took an iterative form; an initial simple model was followed by a sequence of more complex models. In each of the more complex models, the dependent variable from the preceding model became a predictor along with the previous predictors.\(^6\)

In preparing the data for analysis, a univariate analysis of the items used to derive the index scores determined the mean, median, mode and skewness of the scale scores. The skewed nature of the scales and dichotomous nature of the outcomes and predictor variables generated dichotomized scales using median split.\(^7\)

Data analysis was done on the computer. The data were coded and entered into the computer with EPI INFO, and the database was exported to the Statistical Package for the Social Sciences (SPSS), STATA and Statistical Analysis Software (SAS).


CHAPTER 6
UNIVARIATE PRESENTATION OF FINDINGS

INTRODUCTION

This chapter presents a descriptive, univariate profile of sexual risk taking in Ghana that emerged from the data gathered by the survey that was described in earlier chapters.

DEMOGRAPHIC INFORMATION

Three hundred adolescent male and female respondents in Ghana participated in the survey; 284 of them completed the survey, and a few others completed parts of the survey. The total number (N) of respondents answering different questions varied as may be verified by summing the responses.

Gender, Marital Status and Age of Respondents

In the overall sample, there were more females (193) than males (97). Three of the respondents were 10 years old or younger; 18 were 11 to 15 years old; 120 were 16 to 20 years old; and 136 respondents were 21 years old or older. The responses to marital status revealed that 89.2% of the respondents were single; 8.4% of the respondents were married or living together and 2.4% were separated.
Table 2A: Demographic Characteristics of Respondents

<table>
<thead>
<tr>
<th>Gender of participants</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>97</td>
<td>(33.5)</td>
</tr>
<tr>
<td>Female</td>
<td>193</td>
<td>(66.5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group at last birthday (in years)</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or less</td>
<td>3</td>
<td>(1.1)</td>
</tr>
<tr>
<td>11-15</td>
<td>18</td>
<td>(6.5)</td>
</tr>
<tr>
<td>16-20</td>
<td>120</td>
<td>(43.3)</td>
</tr>
<tr>
<td>21+</td>
<td>136</td>
<td>(49.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>15</td>
<td>(6.0)</td>
</tr>
<tr>
<td>Divorced/Separated/Widowed</td>
<td>6</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Living together</td>
<td>6</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Single</td>
<td>223</td>
<td>(89.2)</td>
</tr>
</tbody>
</table>

School and Work

The majority of the respondents in the study (67.2%) were in school at the time of the survey, 4.6% were working and about 18.6% were neither working nor in school. Less than one-eighth (11.5%) of the sample had never reached high school. Almost half (47.7%) had completed some high school and were in high school at the time of the survey. Forty percent (40.7%) had graduated from high school, and half of those have some higher education.
Table 2B: Demographic Characteristics of Respondents

Highest grade completed in school

<table>
<thead>
<tr>
<th>Category of respondents:</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>3</td>
<td>(1.2)</td>
</tr>
<tr>
<td>Elementary</td>
<td>28</td>
<td>(10.3)</td>
</tr>
<tr>
<td>Some high school</td>
<td>115</td>
<td>(47.7)</td>
</tr>
<tr>
<td>High school grad</td>
<td>47</td>
<td>(19.5)</td>
</tr>
<tr>
<td>Post high school</td>
<td>40</td>
<td>(16.6)</td>
</tr>
<tr>
<td>Graduate school</td>
<td>11</td>
<td>(4.6)</td>
</tr>
</tbody>
</table>

Current vocation

<table>
<thead>
<tr>
<th>Current vocation</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In school</td>
<td>162</td>
<td>(57.9)</td>
</tr>
<tr>
<td>Working</td>
<td>41</td>
<td>(14.6)</td>
</tr>
<tr>
<td>Not working or schooling</td>
<td>51</td>
<td>(18.2)</td>
</tr>
<tr>
<td>Other vocation</td>
<td>27</td>
<td>(9.3)</td>
</tr>
</tbody>
</table>

Urbanity and Residence

There were 161 rural and 124 urban respondents. In response to who the respondents were living with during the time of the survey, 74.9% were living with their father, mother or both parents; 17.3% were living with relatives or other relations; 6.4% were living by themselves; and about 1.1% were living with their spouses or partners.

For the principal residence of the respondents until they were 16 years old, 42.3% of the respondents had lived in the Accra and Kumasi metropolitan areas; 37.1% had lived in other towns and 21.7% had lived in villages and rural communities.
Table 2C: Demographic Characteristics of Respondents

**Urban and rural dwellers**

<table>
<thead>
<tr>
<th>Category of respondents:</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>161</td>
<td>(55.5)</td>
</tr>
<tr>
<td>Urban</td>
<td>124</td>
<td>(42.8)</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>(1.7)</td>
</tr>
</tbody>
</table>

**Who do you live with?**

<table>
<thead>
<tr>
<th>Who do you live with?</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both Parents</td>
<td>135</td>
<td>(47.7)</td>
</tr>
<tr>
<td>Father</td>
<td>17</td>
<td>(6.0)</td>
</tr>
<tr>
<td>Mother</td>
<td>60</td>
<td>(21.2)</td>
</tr>
<tr>
<td>Relatives</td>
<td>38</td>
<td>(13.4)</td>
</tr>
<tr>
<td>Spouse /Partner</td>
<td>3</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Spouse &amp; Parent</td>
<td>1</td>
<td>(1.1)</td>
</tr>
<tr>
<td>By Myself</td>
<td>18</td>
<td>(6.4)</td>
</tr>
<tr>
<td>Live with other</td>
<td>11</td>
<td>(3.9)</td>
</tr>
</tbody>
</table>

**Principal residence thru age 15**

<table>
<thead>
<tr>
<th>Principal residence thru age 15</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accra Metro</td>
<td>80</td>
<td>(29.4)</td>
</tr>
<tr>
<td>Kumasi</td>
<td>35</td>
<td>(12.9)</td>
</tr>
<tr>
<td>Other towns</td>
<td>101</td>
<td>(37.1)</td>
</tr>
<tr>
<td>Village/ Rural</td>
<td>56</td>
<td>(21.7)</td>
</tr>
</tbody>
</table>
Family Income and Religion

The data on family monthly income distribution showed that 24.5% of the people were earning 120,000 cedis or less per month ($30 or less); 17% were earning between 120,000 and 400,000 cedis per month ($30 - $100); 4.9% were earning 400,000 cedis per month or more ($100) and 53.6% refused to indicate the family monthly income or did not know.

In terms of the religious affiliation or church denomination of the respondents — Christians comprised 90% of the sample, Muslims 2.3% and respondents practicing traditional religion and other faiths made up 7.7%.

Table 2D: Demographic Characteristics of Respondents

<table>
<thead>
<tr>
<th>Family's Monthly Income (K=1,000)</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C60K or less</td>
<td>36</td>
<td>(13.6)</td>
</tr>
<tr>
<td>C60K to C120K-</td>
<td>29</td>
<td>(10.9)</td>
</tr>
<tr>
<td>C120K to C300K-</td>
<td>28</td>
<td>(10.6)</td>
</tr>
<tr>
<td>C300K to C400K</td>
<td>17</td>
<td>(6.4)</td>
</tr>
<tr>
<td>C400K to C500K-</td>
<td>5</td>
<td>(1.9)</td>
</tr>
<tr>
<td>C500K+</td>
<td>8</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Don't Know</td>
<td>138</td>
<td>(52.1)</td>
</tr>
<tr>
<td>Refuse</td>
<td>4</td>
<td>(1.5)</td>
</tr>
</tbody>
</table>
Table 2D (Continued): Demographic Characteristics of Respondents

Religious Affiliation/Church Denomination

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adventist</td>
<td>5</td>
<td>(1.9)</td>
</tr>
<tr>
<td>Anglican</td>
<td>6</td>
<td>(2.3)</td>
</tr>
<tr>
<td>Apostolic</td>
<td>9</td>
<td>(3.4)</td>
</tr>
<tr>
<td>Assembly of God</td>
<td>13</td>
<td>(4.9)</td>
</tr>
<tr>
<td>Baptist</td>
<td>3</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Church of Pentecost</td>
<td>48</td>
<td>(18.0)</td>
</tr>
<tr>
<td>Methodist</td>
<td>33</td>
<td>(12.4)</td>
</tr>
<tr>
<td>Muslim</td>
<td>6</td>
<td>(2.3)</td>
</tr>
<tr>
<td>None</td>
<td>11</td>
<td>(4.1)</td>
</tr>
<tr>
<td>Presbyterian</td>
<td>73</td>
<td>(27.4)</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>39</td>
<td>(14.7)</td>
</tr>
<tr>
<td>Synagogue</td>
<td>1</td>
<td>(.4)</td>
</tr>
<tr>
<td>Traditional</td>
<td>3</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Others</td>
<td>16</td>
<td>(6.0)</td>
</tr>
</tbody>
</table>

HIERARCHICAL MODEL VARIABLES

Table 3 presents the frequency and percentage distribution of variables for the model starting with the wider background variables. Approximately two-thirds of the respondents were female (66.5%). Overall, over one-third of the respondents (38.6%) were in casual relationships. About one-third (34.1%) of the respondents had high scores on sources of information on health and contraceptives. Almost two-thirds of the
respondents had high scores (61%) on knowledge relating to HIV/AIDS and STIs.

One of the intermediate variables (perceived benefits and barriers) indicated that almost one-third of the respondents (31.7%) agreed that HIV/AIDS and STIs were serious barriers or reasons to fear risky sexual encounters. Regarding perceived norms, over two-thirds of the respondents (67.9%) were influenced by perceived societal norms, such as good morals and respect for parents and partners. In terms of perceived self efficacy, more than three-quarters of the respondents (84.8%) wanted to wait until they felt mature before engaging in sexual activities.

The first proximate determinant (intentions) showed that half of the respondents (49.0%) intended to engage in risky sexual encounters. The outcome variable showed that about half of the respondents (51.0%) engaged in risky, unprotected sexual behavior.
Table 3: Frequency and percentage distribution of model variables (n=290)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Less inclined to risky sex)</td>
<td>142</td>
<td>(49.0)</td>
</tr>
<tr>
<td>High score (Engaged in risky sex)</td>
<td>148</td>
<td>(51.0)</td>
</tr>
<tr>
<td><strong>Proximate determinants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intentions to involve in risky sexual behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Intend to abstain from risky sex)</td>
<td>142</td>
<td>(49.0)</td>
</tr>
<tr>
<td>High score (Intend to have risky sex encounters)</td>
<td>148</td>
<td>(51.0)</td>
</tr>
<tr>
<td><strong>Intermediate variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived benefits and perceived barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Aware of danger signs to avoid risky sex)</td>
<td>198</td>
<td>(68.3)</td>
</tr>
<tr>
<td>High score (Lack awareness of danger signs to avoid risky sex)</td>
<td>92</td>
<td>(31.7)</td>
</tr>
<tr>
<td>Perceived norms-peers, community expectations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (More societal morals influence)</td>
<td>197</td>
<td>(67.9)</td>
</tr>
<tr>
<td>High score (Less societal morals influence)</td>
<td>93</td>
<td>(32.1)</td>
</tr>
<tr>
<td>Perceived self efficacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (My moral influence or want to wait and mature first)</td>
<td>246</td>
<td>(84.8)</td>
</tr>
<tr>
<td>High score (Less moral influence nor inclined to wait and mature)</td>
<td>44</td>
<td>(15.2)</td>
</tr>
</tbody>
</table>
Table 3 (Continued): Frequency and percentage distribution of model variables (n=290)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wider background factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>97</td>
<td>(33.5)</td>
</tr>
<tr>
<td>Female</td>
<td>193</td>
<td>(66.5)</td>
</tr>
<tr>
<td>Relationship status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Steady, engaged or getting married)</td>
<td>178</td>
<td>(61.4)</td>
</tr>
<tr>
<td>High score (Casual relationship)</td>
<td>112</td>
<td>(38.6)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Have access to contraceptive supplies and information)</td>
<td>191</td>
<td>(65.9)</td>
</tr>
<tr>
<td>High score (Less access to contraceptive supplies and information)</td>
<td>99</td>
<td>(34.1)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Knowledgeable about HIV/AIDS and STIs)</td>
<td>113</td>
<td>(39.0)</td>
</tr>
<tr>
<td>High score (Less knowledgeable about HIV/AIDS and STIs)</td>
<td>177</td>
<td>(61.0)</td>
</tr>
</tbody>
</table>
CHAPTER 7
BIVARIATE PRESENTATION OF FINDINGS

INTRODUCTION

This chapter presents the results of testing of hypotheses about the bivariate relationships among the factors involved in the integrated model of determinants of risky sexual behavior among youth in Southern Ghana. These hypotheses were listed at the end of chapter 3 following the explication of the model itself.

The presentation below begins with an overview of the bivariate relationships between the outcome variable of risky sexual behavior and all the other variables in the model. These results appear below in Table 4, followed by the results of testing the hypotheses.

OVERVIEW

On the whole, these data showed that each of the model variables had a significant association with the outcome variable, thus making the case that risky sexual behavior was influenced by a wide constellation of personal and environmental factors.  


HYPOTHESES

Hypothesis 1 (H1 in Table 4) — The likelihood of risky sexual behavior decreased as strong intention to avoid risky sexual behavior increased — was supported. This had been supported as well in many previous studies that used the individual’s intentions alone to explain why adolescents avoided risky sexual behavior.4

Hypothesis 2 (H2 in Table 5) — Greater perceived benefits or lesser barriers were expected to increase the adolescent’s intention to avoid risky sexual behavior — was also supported. This had been supported as well in many previous studies that used the health belief model to explain how adolescents avoided risky sexual behavior.5,6

---


Table 4: Bivariate and percentage distribution of model variables by Outcome Variable

<table>
<thead>
<tr>
<th>Characteristics (Less inclined to risky sex)</th>
<th>Low score</th>
<th>High score (Engaged in risky sex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximate determinants (p-value from chi-square test)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Intentions to involve in risky sexual behavior (H1)</td>
<td>p = 0.0466</td>
<td></td>
</tr>
<tr>
<td>Low score (Inclined to avoid risky sex)</td>
<td>78 (54.9)</td>
<td>64 (45.1)</td>
</tr>
<tr>
<td>High score (More inclined to have sex encounters)</td>
<td>64 (43.2)</td>
<td>84 (56.8)</td>
</tr>
</tbody>
</table>

Intermediate variables

<table>
<thead>
<tr>
<th>Perceived benefits and perceived barriers</th>
<th>p = 0.0121</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low score (Understands danger signs)</td>
<td>38 (19.2)</td>
<td>160 (80.8)</td>
</tr>
<tr>
<td>High score (Not understand danger signs)</td>
<td>30 (32.6)</td>
<td>62 (67.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived norms - peers, community expectations</th>
<th>p = 0.0239</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low score (More societal morals influence)</td>
<td>54 (58.7)</td>
<td>38 (41.3)</td>
</tr>
<tr>
<td>High score (Less societal morals influence)</td>
<td>88 (44.4)</td>
<td>110 (55.6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived self efficacy</th>
<th>p = 0.0098</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low score (My moral influence or want to wait and mature first)</td>
<td>51 (20.7)</td>
<td>195 (79.3)</td>
</tr>
<tr>
<td>High score (Less moral influence nor inclined to wait and mature)</td>
<td>17 (38.6)</td>
<td>27 (61.4)</td>
</tr>
</tbody>
</table>
Table 4 (Continued): Bivariate and percentage distribution of model variables by Outcome Variable

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sexual Behavior (Outcome Variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Less inclined to risky sex) Low score High score</td>
</tr>
<tr>
<td>Wider background factors</td>
<td></td>
</tr>
<tr>
<td>Gender function from differences in socialization</td>
<td>p = 0.0009</td>
</tr>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>34 (17.6)</td>
<td>159 (82.4)</td>
</tr>
<tr>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>34 (35.1)</td>
<td>63 (64.9)</td>
</tr>
<tr>
<td>Relationship status</td>
<td>p &lt; 0.0001</td>
</tr>
<tr>
<td>Low score (Steady, engaged or getting married)</td>
<td></td>
</tr>
<tr>
<td>17 (09.6)</td>
<td>161 (90.4)</td>
</tr>
<tr>
<td>High score (Casual relationship)</td>
<td></td>
</tr>
<tr>
<td>51 (45.5)</td>
<td>61 (54.5)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td>p &lt; 0.0001</td>
</tr>
<tr>
<td>Low score (Have access to contraceptive supplies</td>
<td></td>
</tr>
<tr>
<td>and information)</td>
<td></td>
</tr>
<tr>
<td>25 (13.1)</td>
<td>166 (86.9)</td>
</tr>
<tr>
<td>High score (Less access to contraceptive supplies</td>
<td></td>
</tr>
<tr>
<td>and information)</td>
<td></td>
</tr>
<tr>
<td>43 (43.4)</td>
<td>56 (56.6)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td>p = 0.0070</td>
</tr>
<tr>
<td>Low score (Very knowledgeable about HIV/AIDS and STIs)</td>
<td>17 (23.0)</td>
</tr>
<tr>
<td>High score (Knows less about HIV/AIDS and STIs)</td>
<td></td>
</tr>
<tr>
<td>51 (30.7)</td>
<td>126 (71.2)</td>
</tr>
</tbody>
</table>
Hypothesis 3 (H3 in Table 5) — Greater respect for perceived norms would increase intention to avoid risky sexual behavior\(^7\) — was also supported. This had been supported as well in many previous studies that used perceived norms to explain how positive influence from peer, parent, culture,\(^8\) and community resources helped adolescents avoided risky sexual behavior.\(^9\)

Hypothesis 4 (H4 in Table 5) — Greater perceived self-efficacy was expected to increase the intention to avoid risky sexual behavior — was supported, just as it had been in previous studies that used the Theory of Reasoned Action to explain behavioral intentions.\(^10,11\) This also added credence to the argument that subjective norms influenced intentions directly and indirectly (through attitudes), especially within cultural contexts characterized by strong group orientation, such as was the case with Ghanaian youth. Moreover, in many previous studies self-efficacy, the key concept in social learning theory was associated with a number of healthy behaviors, including actions to prevent HIV transmissions.


Table 5: Bivariate and percentage distribution of Intentions by Intermediate variables

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>(Inclined to abstain) Low</th>
<th>High (Inclined for sex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate variables (p-value from chi-square test)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Perceived benefits and perceived barriers (H2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Aware of danger signs)</td>
<td>177 (89.4)</td>
<td>21 (10.6)</td>
</tr>
<tr>
<td>High score (Not scared of danger signs)</td>
<td>74 (80.4)</td>
<td>18 (19.6)</td>
</tr>
<tr>
<td>Perceived norms - peers, community expectations (H3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (More societal morals influence)</td>
<td>60 (65.2)</td>
<td>32 (34.8)</td>
</tr>
<tr>
<td>High score (Less societal morals influence)</td>
<td>82 (41.4)</td>
<td>116 (58.6)</td>
</tr>
<tr>
<td>Perceived self efficacy (H4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (My moral influence or want to wait and mature first)</td>
<td>218 (88.6)</td>
<td>28 (11.4)</td>
</tr>
<tr>
<td>High score (Less moral influence nor inclined to wait and mature)</td>
<td>33 (75.0)</td>
<td>11 (25.0)</td>
</tr>
</tbody>
</table>

Hypothesis 5 (H5 in Table 6) — Greater female function in the relationship as a result of differences in socialization was expected to increase the perceived benefits and decrease the perceived barriers in avoiding risky sexual behavior — was supported, as it had been in many previous studies.12.

However, hypothesis 6 (H6 in Table 6) — Increased steady relationships and

decreased casual relationships were expected to increase the perceived benefits and decrease the perceived barriers to avoiding risky sexual behavior — was not supported.

Hypothesis 7 (H7 in Table 6) — Increased access to information and supplies for protected sex was expected to increase adolescents’ perceived benefits, and decrease perceived barriers to avoid risky sexual behavior — was also not supported. About two-thirds of respondents in both relationship status and access to information categories were in casual relationships or less knowledgeable about benefits and perceived barriers to risky sexual behavior, respectively.13

Table 6: Bivariate and percentage distribution of perceived benefits and perceived barriers by the wider background factors.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Perceived benefits and perceived barriers (Score)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Aware of danger signs) Low</td>
<td>High (Not scared)</td>
</tr>
<tr>
<td>Wider background factors (p-value from chi-square test) n (%)</td>
<td>n (%)</td>
<td></td>
</tr>
</tbody>
</table>

Gender function from differences in socialization (H5) p = 0.0062

<table>
<thead>
<tr>
<th>Gender</th>
<th>Perceived benefits and perceived barriers (Score)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Aware of danger signs) Low</td>
<td>High (Not scared)</td>
</tr>
<tr>
<td>Female</td>
<td>142 (73.6)</td>
<td>51 (26.4)</td>
</tr>
<tr>
<td>Male</td>
<td>56 (57.7)</td>
<td>41 (42.3)</td>
</tr>
</tbody>
</table>

Relationship status (H6) p = 0.1564

<table>
<thead>
<tr>
<th>Relationship status</th>
<th>Perceived benefits and perceived barriers (Score)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Aware of danger signs) Low</td>
<td>High (Not scared)</td>
</tr>
<tr>
<td>Low score</td>
<td>127 (71.4)</td>
<td>51 (28.6)</td>
</tr>
<tr>
<td>High score</td>
<td>71 (63.4)</td>
<td>41 (36.6)</td>
</tr>
</tbody>
</table>

Table 6 (Continued): Bivariate and percentage distribution of perceived benefits and perceived barriers by the wider background factors.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Perceived benefits and perceived barriers (Score)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access/source of contraceptives and information (H7)</td>
<td>(Aware of danger signs) Low 135 (70.7) High (Not scared) 63 (63.6)</td>
<td>0.2216</td>
</tr>
<tr>
<td>Low score (Have access to contraceptive supplies and information)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High score (Less access to contraceptive supplies and information)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI (H8)</td>
<td>(Knowledgeable about HIV/AIDS and STIs) 85 (75.2) High (Knows less about HIV/AIDS and STIs) 113 (63.8)</td>
<td>0.0423</td>
</tr>
<tr>
<td>Low score (Knowable about HIV/AIDS and STIs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High score (Knows less about HIV/AIDS and STIs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis 8 (H8 in Table 6) — The greater the knowledge about HIV/AIDS and STIs the greater the perceived benefits, and decrease in perceived barriers in avoiding risky sexual behavior — was supported as in many previous studies.14

However, hypothesis 9 (H9 in Table 7) — Increased female function in decisions about sexual behavior as a result of differences in socialization would result in increased perceived norm in avoiding risky sexual behavior — was not supported.

Hypothesis 10 (H10 in Table 7) — Increased steady relationships and decreased casual relationships were expected to increase perceived norms in avoiding risky sexual

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behavior — was supported as in many previous studies\textsuperscript{15}. Moreover, actual knowledge about HIV/AIDS and STI was a strong predictor of perceived norms, but access to information was not Table 7).

However hypothesis 11 (H11 in Table 8) — Increased female function in decisions about sexual behavior as a result of differences in socialization was expected to increase perceived self-efficacy in avoiding risky sexual behavior was not supported.

Hypothesis 12 (H12 in Table 8) — increased access to information and supplies for protected sex was expected to increase perceived self-efficacy to avoid risky sexual behavior — was supported as in many previous studies.\textsuperscript{16}

Hypothesis 13 (H13 in Table 8) — The greater the knowledge about HIV/AIDS and STIs the greater the perceived self-efficacy in avoiding risky sexual behavior — was not supported.\textsuperscript{17}


Table 7: Bivariate and percentage distribution of perceived norms by the wider background factors.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Low (More societal morals influence)</th>
<th>High (Less morals)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Wider background factors (p-value from chi-square test)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender function from differences in socialization (H9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>66 (34.2)</td>
<td>127 (65.8)</td>
</tr>
<tr>
<td>Male</td>
<td>26 (26.8)</td>
<td>71 (73.2)</td>
</tr>
<tr>
<td>Relationship status (H10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Steady, engaged or getting married)</td>
<td>64 (36.0)</td>
<td>114 (64.0)</td>
</tr>
<tr>
<td>High score (Casual relationship)</td>
<td>28 (25.0)</td>
<td>84 (75.0)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Have access to contraceptive supplies and information)</td>
<td>66 (34.5)</td>
<td>125 (65.5)</td>
</tr>
<tr>
<td>High score (Less access to contraceptive supplies and information)</td>
<td>26 (26.3)</td>
<td>73 (73.7)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (Less knowledgeable about HIV/AIDS and STI)</td>
<td>49 (43.4)</td>
<td>64 (56.6)</td>
</tr>
<tr>
<td>High score (Knows more about HIV/AIDS and STI)</td>
<td>43 (24.3)</td>
<td>134 (75.7)</td>
</tr>
</tbody>
</table>
Table 8: Bivariate and percentage distribution perceived self efficacy by the wider background factors.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Perceived self efficacy (Score)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(My moral influence or want to wait and mature first) Low</td>
<td>High (Less inclined)</td>
</tr>
<tr>
<td>Wider background factors (p-value from chi-square test)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Gender function from differences in socialization (H11)</td>
<td>p = 0.3458</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>161 (83.4)</td>
<td>32 (16.6)</td>
</tr>
<tr>
<td>Male</td>
<td>85 (87.6)</td>
<td>12 (12.4)</td>
</tr>
<tr>
<td>Relationship status</td>
<td>p &lt; 0.0001</td>
<td></td>
</tr>
<tr>
<td>Low score (Steady, engaged or getting married)</td>
<td>165 (92.7)</td>
<td>13 (07.3)</td>
</tr>
<tr>
<td>High score (Casual relationship)</td>
<td>81 (72.3)</td>
<td>31 (27.7)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information (H12)</td>
<td>p = 0.0390</td>
<td></td>
</tr>
<tr>
<td>Low score (Knows little about contraceptive sources)</td>
<td>168 (88.0)</td>
<td>23 (12.0)</td>
</tr>
<tr>
<td>High score (Knowledgeable about contraceptive sources)</td>
<td>78 (78.8)</td>
<td>21 (21.2)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI (H13)</td>
<td>p = 0.1642</td>
<td></td>
</tr>
<tr>
<td>Low score (Less knowledgeable about HIV/AIDS and STIs)</td>
<td>100 (88.5)</td>
<td>13 (11.5)</td>
</tr>
<tr>
<td>High score (Knows more about HIV/AIDS and STIs)</td>
<td>146 (82.5)</td>
<td>31 (17.5)</td>
</tr>
</tbody>
</table>
CHAPTER 8
MULTIVARIATE PRESENTATION OF FINDINGS

INTRODUCTION

This chapter presents the results of multivariate analysis. Hierarchical logistic regression analysis was used to understand the relationships between all the model variables and the dependent variable of interest, risky sexual behavior.\(^1\) The iterative form used by this type of regression analysis started with an initial simple model. This was followed by a sequence of more complex models in which the dependent variable from the immediately preceding model would became a predictor along with the previous predictors.\(^2\) The model chi-square (\(\chi^2\)) test measured the extent the model independent variables as a whole were related to the natural logarithm of the odds (log odds) of the outcome variable for a given regression analysis.\(^3\)


INTEGRATED MODEL APPLIED TO YOUTH IN GHANA

The results of this iterative modeling process are presented in Tables 9 through Table 13 below. Tables 9 through Table 11 present the results for the intermediate variables regressed on the wider background factors (sub-models 1a, 1b, and 1c). Table 12 presents the results for the proximate determinant of intentions regressed on the intermediate variables and the wider background factors (sub-model 2). Finally, Table 13 presents the results for the ultimate outcome variable of sexual behavior regressed on all the preceding variables (sub-model 3).

To summarize, the results indicated a statistically significant fit for each of the models except for sub-model 1b, which dealt with the prediction of perceived norms. The results indicated that the overall hierarchical model for predicting sexual behavior was highly significant (p<0.0001, Table 13). Moreover, the model for predicting intentions, the proximate determinant, was significant (p=<0.001, Table 12). The model for predicting perceived barriers and perceived benefits variable was significant (p<0.05, Table 9), as was the model for predicting perceived self-efficacy was significant (p<0.001, Table 11). The model for predicting perceived norms index was not significant (p=0.15, Table 10).

In the first step, sub-model 1a (Table 9), where perceived benefits and perceived barriers to avoiding risky sexual behavior were the dependent variable, only one independent variable emerged as significant (p< 0.01) in its net impact. The Ghanaian youth with access to contraceptive and sexual risk-taking information were significantly more likely to understand perceived benefits and perceived barriers (odds ratio [OR] = 2.98) than the youth with less access to and information about contraceptives and sexual
risk taking.

For sub-model 1b (Table 10), where perceived norms (peers and community expectations) were the dependent variable, only one independent variable emerged as significant (p< 0.05) in its net effect. Participants who were significantly more knowledgeable about HIV/AIDS and STIs were more likely to have increased perceived norms and to be less influenced by negative peers and community norms (OR=1.69).

In sub-model 1c (Table 11), where perceived self-efficacy was the dependent variable, two of the four variables emerged as significant in their net effect. Greater gender role in the relationship and respondents who had greater access to contraceptive supplies and information were significantly more likely to have increased perceived self-efficacy (OR=0.51 and 3.92, respectively).

In the second sub-model 2 (Table 12), where intention was the dependent variable, perceived self-efficacy and especially perceived norms indices emerged as significant in their net effect (OR=2.72 and 0.48).

Table 9: Hierarchical logistic regression results - Perceived benefits and barriers

<table>
<thead>
<tr>
<th>Perceived benefits and perceived barriers: to engage in risky/safe sexual behavior*</th>
<th>Sub-model 1a: Odds ratio (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender role</td>
<td>0.97 (0.58 – 1.60)</td>
</tr>
<tr>
<td>Relationship status</td>
<td>0.91 (0.50 – 1.66)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td>2.98 (1.51 – 5.87)**</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td>0.98 (0.61 – 1.58)</td>
</tr>
</tbody>
</table>

Reference groups for each variable were as follows: gender (male); relationship status (casual); access to information (low score); knowledge about HIV/AIDS (low score); perceived benefits and barriers (low score); perceived norms (low score); perceived self...
efficacy (low score); intentions (low score); skills (low score); and situational factors (low score).

Table 10: Hierarchical logistic regression results - Perceived norms

<table>
<thead>
<tr>
<th>Perceived norms - peers, community expectations: to engage in risky/safe sexual behavior</th>
<th>Sub-model 1b:</th>
<th>Odds ratio (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender role</td>
<td></td>
<td>1.23 (0.73 – 2.09)</td>
</tr>
<tr>
<td>Relationship status</td>
<td></td>
<td>0.79 (0.42 – 1.51)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td></td>
<td>0.61 (0.31 – 1.20)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td></td>
<td>1.69 (1.01 – 2.80)*</td>
</tr>
</tbody>
</table>

Table 11: Hierarchical logistic regression results - Perceived self efficacy

<table>
<thead>
<tr>
<th>Perceived self efficacy: to engage in risky/safe sexual behavior</th>
<th>Sub-model 1c:</th>
<th>Odds ratio (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender role</td>
<td>0.51 (0.29 – 0.90)*</td>
<td></td>
</tr>
<tr>
<td>Relationship status</td>
<td>1.74 (0.94 – 3.23)</td>
<td></td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td>3.92 (2.10 – 7.32)**</td>
<td></td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td>1.14 (0.69 – 1.92)</td>
<td></td>
</tr>
</tbody>
</table>

*p<0.05; **p<0.01; ***p<0.001
Table 12: Hierarchical logistic regression results - Intentions

Intentions: to engage in risky/safe sexual behavior

Sub-model 2: Odds ratio (95% confidence interval)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender role</td>
<td>0.74 (0.44 – 1.26)</td>
</tr>
<tr>
<td>Relationship status</td>
<td>1.24 (0.71 – 2.16)</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td>0.86 (0.49 – 1.51)</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td>1.67 (0.99 – 2.82)</td>
</tr>
<tr>
<td>Perceived benefits and perceived barriers</td>
<td>0.77 (0.44 – 1.35)</td>
</tr>
<tr>
<td>Perceived norms - peers, community expectations</td>
<td>2.72 (1.57 – 4.71)***</td>
</tr>
<tr>
<td>Perceived self efficacy</td>
<td>0.48 (0.23 – 1.00)*</td>
</tr>
</tbody>
</table>

*p<0.05; **p<0.01; ***p<0.001

†Reference groups for each variable were as follows: gender (male); relationship status (casual); access to information (low score); knowledge about HIV/AIDS (low score); perceived benefits and barriers (low score); perceived norms (low score); perceived self efficacy (low score); and situational factors (low score).

In the final step, in sub-model 3 (Table 13) where sexual behavior was the dependent variable, three of the eight variables emerged as significant in their net effect. Those Ghanaian youth who were in steady relationships, had greater access to contraceptives supplies and information, and had greater female function in the relationship were significantly more likely (OR = 0.20, 0.31, and 0.53 respectively) to avoid risky sexual behavior.
Table 13: Hierarchical logistic regression results: Overall Sexual Behavior†

<table>
<thead>
<tr>
<th>Sub-model 3</th>
<th>Odds ratio (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender role</td>
<td>0.53 (0.28 – 1.01)*</td>
</tr>
<tr>
<td>Relationship status</td>
<td>0.20 (0.10 – 0.38)***</td>
</tr>
<tr>
<td>Access/source of contraceptives and information</td>
<td>0.31 (0.16 – 0.60)***</td>
</tr>
<tr>
<td>Actual knowledge about HIV/AIDS, STI</td>
<td>0.93 (0.46 – 1.86)</td>
</tr>
<tr>
<td>Perceived benefits and perceived barriers</td>
<td>0.71 (0.35 – 1.44)</td>
</tr>
<tr>
<td>Perceived norms - peers, community expectations</td>
<td>1.08 (0.52 – 2.23)</td>
</tr>
<tr>
<td>Perceived self efficacy to avoid risky sex</td>
<td>0.85 (0.36 – 1.99)</td>
</tr>
<tr>
<td>Intentions to avoid risky sexual behavior</td>
<td>1.11 (0.56 – 2.12)</td>
</tr>
</tbody>
</table>

*p<0.05; **p<0.01; ***p<0.001

†Reference groups for each variable were as follows: gender (male); relationship status (casual); access to information (low score); knowledge about HIV/AIDS (low score); perceived benefits and barriers (low score); perceived norms (low score); perceived self efficacy (low score); intentions (low score); skills (low score); and situational factors (low score).
CHAPTER 9
CONCLUSION AND RECOMMENDATIONS

INTRODUCTION

This study started from the premise that there was still no cure or vaccine for HIV even after two decades of biomedical and behavioral research had established the causes of AIDS as well as viable modes of transmission. Therefore, there was a need to focus on behavioral theory as a way to combat the spread of the disease, especially since the epidemic was rooted in the behaviors that transmitted the virus.

The research identified and analyzed eight determinants of risk-related behaviors in Southern Ghana: gender role perceptions, relationship status (steady or casual), access to information and supplies, actual knowledge (about STDs, HIV/AIDS and contraceptives), perceived benefits and perceived barriers, perceived norms (peers and community expectations), perceived self-efficacy and intentions.

From the global perspective sexually active adolescents were at the highest risk, and one out of every 20 teenagers worldwide contracted an STD each year. The 20 to 24 year olds were followed by 15 to 19 year olds, as those at the highest risk of contracting STDs. Unsafe sex was the predominant mode of transmission of HIV worldwide and accounted for 80-90% of infections.
A review of the literature on Ghanaian youth revealed the disturbing fact that 50% of women aged 15 to 24 and more than 80% of men in the same age cohort engaged in risky sexual behavior. These high rates of risky behaviors existed even though, according to the Ghana Demographic and Health Survey (2003), most women (98%) and men (99%) had heard about AIDS. A review of the research literature on relationships and adolescent sexual behavior in Ghana indicated that multiple sexual partners (sequentially, if not concurrently), inconsistent condom use, and vulnerability to coercion, resulted in sexual risk-taking behaviors.

The literature on behavioral theory documented the extensive contribution of major theories, including Health Belief Model (HBM), Social Cognitive Theory (SCT), the Theory of Planned Behavior (TPB) and the Theory of Reasoned Action (TRA). Those theories used intentions, perceived benefits and perceived barriers, subjective norms and perceived self-efficacy in predicting intention (and eventually sexual behavior). These popular psychosocial theories were predicated on Western notions as applied to individuals. They might be more suited to interventions for small, high-risk segments of Western populations than for entire populations, especially non-Western. They might thus hold less relevance for populations in traditional communal cultures, where individual identity was grounded in family and community roles.1

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This study proposed an integrated approach to predict sexual behavior outcomes using hierarchical analysis. The central outcome emerged from a three-step process that involved three sets of determinants. The first step was the most proximate determinant of risky sexual behaviors: this was intention. The second step identified the factors that were determinants of the proximate variables, called intermediate variables. These were: perceived benefits and perceived barriers, perceived norms and perceived self-efficacy. The third step in the process addressed wider background factors, which were determinants of the intermediate variables. These were: gender, relationship status, access to information and supplies, and actual knowledge about health behavior.

The survey was conducted in four cities -- Accra (Greater Accra regional capital), Kumasi (Ashanti regional capital), Sunyani (Brong Ahafo regional capital), and Ho (Volta regional capital). These cities in Ghana were also the focal point for regional administrative and economic activities. Three other study areas were towns representing peri-urban or rural areas -- Elmina in Central Region, Dodowa, and Somanya in Eastern region.

The southern regions of Ghana were selected for the study because they were predominantly Christian and more open to surveys involving human sexual experience as compared to the northern regions, which were mostly Moslem and less open to questions about human sexual experience.

The survey was designed to gather information about adolescents aged 10-24 years, including in-school and out-of-school youth, youth workers and trade apprentices. Permission for the survey of in-school participants was obtained from the heads of the schools, and the questionnaires were self-administered.
Trained assistants administered the survey to out-of-school adolescents. Volunteers and teachers were trained to follow-up with each respondent, to assist with any questions or difficulties and to collect the completed surveys. Only sixteen questionnaires were not completed out of the 300 questionnaires that were distributed for a 93% total response rate.

SUMMARY OF FINDINGS

The study findings supported and extended previous research documenting significant relations between risky sexual behavior and a range of health risk behaviors among Ghanaian youth. The number of sexual partners, early initiation of intercourse, and the context within which sexual activity began, including the use of condoms, were key measures of adolescent of adolescents' potential for sexual risk behavior.²

All of the ten indices had significant association with the sexual behavior index, the outcome variable. This made the case that³,⁴ risky sexual behavior was influenced by a wide spectrum of variables including both personal and environmental factors.⁵


The bivariate analysis showed that eight of the thirteen hypotheses were supported when individual indices were examined.

The relevance of bivariate hypotheses in the model was to accomplish the intermediate objectives. First, hypotheses 2, 3 and 4 indicated the relevance for increasing intentions to avoid risky sexual behavior. The three factors were (a) perceived benefits and perceived barriers, (b) perceived norms and (c) perceived self-efficacy.6

Second, hypotheses 5 and 8 revealed the relevance for increasing perceived benefits and decreasing perceived barriers. The two factors were: (a) greater female function in the relationship and (b) greater knowledge about HIV/AIDS and STIs and information on the possible consequences of unsafe sex.7

Third, hypothesis 10 emphasized the relevance for increasing perceived norms, and the single factor was increased steady relationship and decreased casual relationship.8

Fourth, hypothesis 12 focused on the relevance for increasing perceived self-efficacy, and the single factor was access to contraceptive information and supplies.

Fifth, hypothesis 1 established the association between intention and sexual behavior in the first place. This was elaborated upon in the multivariate analysis.9


The multivariate analysis was relevant for the ultimate objective of changing behaviors in order to decrease risk. The predicting power of the indices used in the integrated model demonstrated that the model as a whole was highly significant. The net impacts showed that three determinants emerged as significant. These three determinants were (a) access to information and contraceptive supplies, (b) relationship status, and (c) gender function in the relationship.

IMPLICATIONS FOR POLICY AND PROGRAMS

How could these findings from this research be applied? This comprehensive approach took into account multiple levels of interventions that targeted diverse needs and interests of the technologically savvy youth. The ultimate objective of this research was learning what could be done to change the behavior of Ghanaian youth in order to decrease their risky sexual behavior. The following are some suggestions for interventions that derive from the findings of this research.

First, there could be intervention to address hypotheses 2, 3 and 4. This intervention would aim at increasing the intention to avoid premarital risky sexual behavior and would demand greater perceived benefits and lesser perceived barriers, greater respect for perceived norms, and perceived self-efficacy.

Second, another intervention could address hypotheses 5 and 8. This would aim at increasing perceived benefits and decreasing perceived barriers, requiring greater female function in the relationship and greater knowledge about HIV/AIDS and STIs.

Third, an intervention could address hypothesis 10. This intervention would aim at increasing level of perceived norms, necessitating increased steady relationships and decreased casual relationships.

Fourth, another intervention could address hypothesis 12. This would aim to increased perceived self-efficacy and might include an intervention requiring increased access to information and contraceptive supplies.

To accomplish the ultimate objective of changing behavior in order to decrease risky sexual behavior, the integrated model as a whole was highly significant. If there were sufficient resources to make global changes in relation to all of the factors, interventions would be very likely to succeed. However, if resources were limited and there was a need to prioritize, then efforts should be focused on the three determinants that emerged as significant.

First, an intervention should target access to information and contraceptive supplies. Second, an intervention addressing relationship status should encourage steady relationships and discourage casual relationships. Third, an intervention should address greater female function in the relationship. These were the first and most influential factors on which interventions should focus.

Of course, by the time changes in gender roles had been effected, one should also deal with the wide spectrum of issues and challenges that would have to be involved in such profound culture change.
LIMITATIONS OF THE STUDY

The information collected for the survey was designed to examine the knowledge, attitudes and beliefs about safe and risky sexual behavior among Ghanaian youth. The data were not strong on all the indices. In interpreting these results, caution was necessary, because several key variables were measured retrospectively and might have been influenced by inaccuracies in recall.

The survey was based on self-report data without corroboration from additional sources or observations of actual behavior and on self-report measures of all variables and indices. It was also important to note that the respondents' self-reported data concerned sensitive topics and could not be verified by assured informants.

Despite the progress made in confronting gender roles and increasing the number of national and community-level surveys on sexual and reproductive behavior, measurement of sexual activity remains beset with difficulties.

Many survey respondents did not or could not always openly or truthfully answer questions dealing with the intimate topic of their sexual behaviors and practices. Understandably, adolescents, were probably even more likely than adults to be reticent about this area of their behavior, especially if they were unmarried or lived in settings where sexual relationships outside marriage were censored. Very young teenagers,

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who were only just beginning to develop a sense of their sexuality, were probably especially unlikely to want to discuss this part of their lives.

However, the opposite problem also may have been encountered. Some young men may have over-reported their sexual activity to give the impression that they were conforming to what they thought society expected of them. These differential biases increased the difficulty of accurately comparing the experiences of males and females. Involuntary intercourse might also have affected accuracy; misreporting was more likely when an individual’s experience had included non-consensual sex.

Finally, methodological issues, including some that were linguistic or semantic, might play a role.

Strengths of this research included reasonably strong measurement properties of the survey instrument 12 “Do you think you’re going to have sex in the next month” with response options “definitely no” (1) to “definitely yes” could measure behavior intention to engage in sexual behavior.13 The Cronbach’s alpha for intention could be improved from 0.54 in this study to about 0.86 using Doswell’s Intention of Sexual Behavior Scale (mIPSB).14 Safer self-efficacy could have been measured with four-items (α = .79)

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that tapped adolescents’ perceived ability to negotiate condom use with their partners, improvement on Cronbach’s alpha (α = .38) for this study.\textsuperscript{15}

Despite the numerous variables and indices on relevant knowledge, motivation and behavioral skills to enhance sexual health and avoid sexual health-related problems that were tested in this study, more in-depth study is needed. This additional study might focus on behavior and personal responsibility needed not only in Ghana but also in other Sub-Saharan African countries. This would help in deepening our understanding of the myriad of factors that appear to influence adolescent risk-taking.

Although this might not provide the secret amulet to substantially change adolescent behaviors, it might provide valuable information for programs to use in designing effective interventions.

APPENDIX
THE RESEARCH INSTRUMENT

PART I: Background/Demographic Information

Studyid: ###  Idknt <IDNUM>
Urban:  <Y>

1. Circle Respondent's {Sex}:  Male....1  Female....2 #

2. {Age group} on your last birthday? # or {Age} ## years
   10 yrs or less..................... 1
   11 - 15 ............................ 2
   16 - 20............................... 3
   21 yrs and above............... .... 4

3. Date of birth {Dob} <mm/dd/yy>

4. What is the highest grade in {school} or year of college that you completed?
   NONE ......................................................... 00
   ELEMENTARY .......................... 01 02 03 04 05 06
   JUNIOR SEC SCH (JSS) ............... 07 08 09
   SENIOR SEC SCH (SSS) ............... 10 11 12
   POST SECONDARY/UNIVERSITY .... 13 14 15 16
   GRADUATE SCHOOL/OTHER .......... 17

5. What do you currently do? {vocation} #
   1. In school  2. Working  3. Neither in school nor working  4. Other Specify

6. Whom do you {live with}? ##
   1. Both parents  5. Friends
   2. Father  6. Spouse/partner
   3. Mother  7. Spouse and parents
   4. Relatives  8. By myself
   9. Other Specify

7. Check the range which best represents your family's monthly {income}:
   Less than 60,000 .............. 1
   60,000 - 119,999 ............. 2
   120,000 - 299,999 ........... 3
   300,000 - 399,999 ........... 4
   400,000 - 499,999 .......... 5
   Greater or equal to 500,000 ... 6
   Don't Know ................... 8
   Refuse ......................... 9

119
8. Where did you principally reside through age 15? #
   1. Accra Metropolitan area
   2. Kumasi
   3. Other town Specify
   4. Village; rural Specify

9. What is your religious affiliation or church's denomination called? (religion) ##
   Adventist...............................01
   Anglican .............................02
   Apostolic ..............................03
   Assembly of God .....................04
   Baptist .................................05
   Church of Pentecost ...............06
   Methodist ..............................07
   Muslim .................................08
   None .....................................09
   Presbyterian ..........................10
   Roman Catholics ....................11
   Synagogue .............................12
   Traditional .........................13
   Others Specify

10. Marital status #
    1. Married
    2. Formerly married (divorced, separated and widowed)
    3. Consensual union (living together)
    4. Single (never married) Skip to Question 13

11. At what age did you get married/start living together? ## years

12. Age of spouse at time of marriage/living together ## years

Please indicate whether you agree, disagree, or you don't know, with the following statements:

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These statements are about not having sexual intercourse before marriage (Check all the reasons that apply)

13) My own moral values or convictions
This statements are about having sexual intercourse before marriage (Check all that apply)

25) If a young man makes someone pregnant, the child is his responsibility as much as the mother's. (makpregn) #
<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
<th>Don't</th>
<th>Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

26) Sex before marriage is never alright

27) Sex before marriage is alright if the couple plan to marry

28) Sex before marriage is alright whether the couple plan to marry or not plan

29) Sex before marriage is alright for males but not for females

30) Sex before marriage is alright for females but not for males

31. At what age did you first have sexual intercourse? ## years

32. About how many times over the past month have you had sexual relations? ##

1. One 4. More than three
2. Two 5. None
3. Three 6. Refuse

33. Do you have a steady girlfriend/boyfriend now? #

1. Yes 2. No (Skip to Question 19)

34. Age of girlfriend/boyfriend ## years

35. What is her/his educational level? ##

<table>
<thead>
<tr>
<th>NONE</th>
<th>ELEMENTARY</th>
<th>JUNIOR SEC SCH (JSS)</th>
<th>SENIOR SEC SCH (SSS)</th>
<th>POST SECONDARY/UNIVERSITY</th>
<th>GRADUATE SCHOOL/OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>01 02 03 04 05 06</td>
<td>07 08 09</td>
<td>10 11 12</td>
<td>13 14 15 16</td>
<td>17</td>
</tr>
</tbody>
</table>
36. Are you presently engaged to or have discussed marriage with your partner?
   1. Yes  2. No

37. How soon do you think you are likely to get married? #
   1. Do not plan to marry
   2. Within the next six months
   3. Six months to a year from now
   4. Over a year from now

38. Name any diseases that may be transmitted through sexual intercourse? namestd #
   1. Gonorhea <Y>
   2. Syphilis <Y>
   3. HIV/AIDS <Y>
   4. Other Specify

39. Who do you discuss sexual relations with? #
   1. Friends <Y>
   2. Parents <Y>
   3. Teachers <Y>
   4. Siblings <Y>
   5. Religious Leaders <Y>
   6. Other Specify

40. Who do you seek advice from about sexual relationships? #
   1. Friends <Y>
   2. Parents <Y>
   3. Teachers <Y>
   4. Siblings <Y>
   5. Religious Leaders <Y>
   6. Other Specify

41. Have any of your friends been pregnant before marriage? #
   1. Yes  2. No  8. Don't know

42. Have any of your friends had a baby? #
   1. Yes  2. No  8. Don't know

43. Some pregnancies are terminated deliberately before full term or as still birth. Have any of your friends terminated a pregnancy deliberately? endpregn #
   1. Yes  2. No  8. Don't know

PART II: Family Planning and Reproductive Health

44. Are you sexually active? #
   1. Yes
   2. No, never had sexual intercourse (Skip to Question 46)
   3. No, not at the present time

45. How many sexual partners have you had in the past year? #
46. A girl can get pregnant the first time she indulges in sexual intercourse. {pregfsex} #
   1. Yes  2. No  8. Don't know

47. Are you familiar with any methods that may be used to prevent pregnancy? {mthprvpg} #
   1. Yes  2. No  8. Don't know

48. Please tell me what methods you know (spontaneous response)
   (Check all that apply)
   1. {knPills} <Y>  6. {knDiaphr}agm <Y>
   2. {knIUD} <Y>  7. {knRhythm} <Y>
   3. {knInject}able <Y>  8. {knSteril}ization <Y>
   4. {knCondom} <Y>  9. {knAbs}taining from {sex} <Y>
   5. {knFoam} tablets <Y>  10. {knOther} Specify #

49. Do you think unmarried persons should use contraception if they are having sexual relations? {unmarctr} #
   1. Yes  2. No  8. Don't know

50. Whose responsibility is it to see that a girl does not get pregnant when indulging in sex? {Rsponsex} #

51. Did you use contraception the first time you had sex? {fsexctrc} #
   1. Yes  2. No  8. Don't know

52. Are you {cur}rently using any means of {contr}aception? #
   1. Yes  2. No  8. Don't know

53. If yes, what method(s) are you using?
   (Check all that apply)
   1. {cuPills} <Y>  6. {cuDiaphr}agm <Y>
   2. {cuIUD} <Y>  7. {cuRhythm} <Y>
   3. {cuInject}able <Y>  8. {cuSteril}ization <Y>
   4. {cuCondom} <Y>  9. {cuAbs}taining from {sex} <Y>
   5. {cuFoam} tablets <Y>  10. {cuOther} Specify #

54. Where do you get your contraceptives? (Check all that apply)
   1. {gtChemist} shop/Pharmacy <Y>
   2. {gt}Family planning clinic in the {hospit}al <Y>
   3. {gt}Family planning clinic {PPAG} <Y>
   4. {gtYWCA} outreach counsellor <Y>
   5. {gtDoctor} <Y>
   6. {gtNurse} <Y>
   7. {gtFriend} <Y>
   8. {gtRelat}i{v}e <Y>
   9. {gtOther} Specify #
55. {Why} do you {go} there for {f}amily {p}lanning {s}ervices? ##
   1. It is close to where I live
   2. It is not in my neighborhood
   3. The staff there really care about adolescents
   4. The staff there don’t tell your parents you came
   5. My friends go there
   6. It is the only clinic I know about
   7. There are different methods available
   8. It is free
   9. Other Specify

56. Who is the best person to provide counseling at the health/family planning clinic? {Counsel} ##
   1. Community Based Distribution (CBD) workers
   2. Clinic nurse
   3. Teacher
   4. Priest/Pastor/Imam
   5. Peer
   6. Other Specify

57. Why are you not using contraception? {rsnotetr} ##
   1. Not sexually active
   2. Currently pregnant
   3. Do not think about contraception
   4. Don’t think I can get pregnant
   5. Don’t know where to get contraceptives
   6. Concern about safety of contraceptives
   7. Partner objects to using contraceptives
   8. Want to have a baby
   9. Breastfeeding
   10. Afraid that my parents will find out
   11. Other Specify

58. Do you think that boys or girls who always {us}e {condom}s are: #
   1. Responsible youth
   2. HIV positive
   3. Are not committed to the relationship
   4. Have multiple sex partners
   5. Are promiscuous

59. If you use condoms what are the {chances} that you or your # partner can get pregnant?
   1. No chance
   2. A little chance
   3. 50-50 chance
   4. Pretty good chance
Please indicate whether the following statements are True, False or Don't Know;  

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>60) Have you heard about a disease called {hrd AIDS}?</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>61) Can a person get AIDS from sexual intercourse. {gtfrmsex}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62) Can a person get AIDS from a healthy looking person. {frmhlthy}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63) Can babbies be {born} with {AIDS}?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64) Are people who wash carefully after sex safe from {wash AIDS}?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>65) Can {trad}itional healers {cure} AIDS?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66) Is there a {vaccine} for AIDS?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67) Does the use of condom during sexual intercourse reduce the risk of getting AIDS or other STDs? {cndmrduc}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68) Can a condom be used for more than one sexual encounter? {cndm1sex}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69) Can one condom be used by more than one person? {cndm1psn}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70) Are condoms most appropriate for use with casual partners? {cndmcsul}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71) Do you think it is important that adolescents be given family life education {FLE in sch}ool?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72) Should the Ministry of Health set up clinics that cater to adolescent reproductive health and family planning needs? {MOHFPcln}</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
73) Have you received adequate information about protecting yourself from unwanted pregnancies? {infopgn} #

74) What is/was your principal source of information on sex? (Choose all that apply) {infosrce} ##
1. {scFamily} life education in school <Y> 2. scParent} (s) <Y>
3. {scSister}/brother <Y> 4. {scMovies}/video <Y>
5. {scBooks}, magazines or pamphlets <Y> 6. {scFriend}s <Y>
7. {scChurch} <Y> 8. {scOther} <Y>

Please indicate whether you agree, disagree, or you don't know, with the following statements: Agree Disagree Know
1 2 8

75) Adolescents need specific information about how to obtain and/or use contraceptives or prophylactic methods. {infotobt} #

76) Adolescents need parental consent to obtain, and/or use contraceptives. {parcnsob} #

77) Adolescents need specific information about how to obtain and/or use contraceptives or prophylactic methods

78) Adolescents need parental consent to obtain and/or use contraceptives

PART III: For Female Respondents Only

79. Have you (ever) been pregnant? # 1. Yes 2. No (Skip to Question 94)

80. How old were you when you first became pregnant? {agefstpg} ## years

81. Were you in school at the time you got pregnant? #
1. Yes 2. No 8. Don't know
82. Did you \{drop\} out of school because of \{preg\}nancy? #
   1. Yes  2. No  8. Don't know

83. Have you \{ever\} had a \{baby\}? #
   1. Yes  2. No (Skip to Question 86) 8. Don't know

84. How old were you when you first gave \{age birth\} to a child? ## years old

85. Did you go back to school after you had the baby? \{gobcksch\} #
   1. Yes, found another school
   2. Yes, went back to the same school
   3. No stayed at home and took care of the baby
   4. No, got married
   5. Other

86. Have you \{ev\}er \{term\}ina{t}\{e\} \{d\} a pregnancy deliberately? #
   1. Yes  2. No (Skip to Question 92)

87. Where did you \{go\} to have the pregnancy \{term\}ina{t}\{e\}? #
   1. Hospital 4. Family Planning Clinic
   2. Clinic (General) 5. A friends house
   3. Don't know 6. At home
   7. Other (specify)

88. \{Whose adv\}ice did you rely on most in deciding to #
    have the pregnancy terminated?
   1. Parent(s) 5. Doctor, nurse, midwife
   2. Guardian(s) 6. Sister/brother
   3. Boyfriend 7. Other (specify)

89. \{Who term\}inate{d} the pregnancy? #

90. How \{many preg\}nancies have you terminated? #
   1. Only one 2. Two 3. Three 4. More than three

91. How many \{fchildr\}e\{n\} do you have # number

92. Are you \{preg\}nan{t} now? # 1. Yes  2. No  8. Don't know

93. Before you became pregnant (last time/this time), was
   \{preg\}nancy \{plan\}ned? # 1. Yes  2. No  8. Don't know

94. Would you say having a \{baby\} when you are in \{sch\}oo{l} #
   1. Is not a problem
   2. Is not a problem if your family helps
3. Is a problem for you and the baby but not the father of the baby
4. Is a problem for you, the baby and the father of the baby

95. Would you say having a baby as a teenage girl is a health problem? # 1. Yes 2. No 8. Don't know

Section IV: For Male Respondents Only

96. Have you ever gotten someone pregnant? # 1. Yes 2. No 8. Don't know

97. If yes: How old were you when you first got someone pregnant? ## years

98. The first time you got someone pregnant, how did the pregnancy end? # 1. She had a baby (Ask Question 99) 2. Pregnancy was terminated (abortion) 3. She had a still birth 4. She had a miscarriage 5. She is pregnant now 6. Don't know

99. How many children do you have? # number

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