

**THE ROLE OF FAMILY BACKGROUND ON HIV/AIDS  
AWARENESS AND CONDOM USE AMONG SECONDARY  
SCHOOL STUDENTS IN SELIBE-PHIKWE (BOTSWANA)**

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## Abstract

### **THE ROLE OF FAMILY BACKGROUND ON HIV/AIDS AWARENESS AND CONDOM USE AMONG SECONDARY SCHOOL STUDENTS IN SELIBE-PHIKWE (BOTSWANA)**

**Background:** This study investigated the relationship between family background and adolescent sexuality among secondary school students in Botswana.

**Objective:** Controlling for individual, household, and community level variables, the main goals of the study are to determine the role of family background variables [at age 11, which significant adult did the subject live with, presence/absence of communication on sexuality with either co-resident and non-resident family members or both, presence/absence of punishment, for sexually-related behaviour, from resident adult family members] on awareness of HIV/AIDS and condom use among Secondary School students.

**Design:** The study is cross-sectional and used a combination of both quantitative and qualitative methodologies. The main data source are the responses to the current and retrospective questions, obtained via self-administered questionnaires which were distributed among a selection of 531 students attending purposively selected Secondary Schools in Selibe-Phikwe, in 2001. Data from key informant interviews with Headmasters and other community leaders was also collected. This information was bolstered by that obtained from focus group discussions with the students. SPSS v-11.0 was employed to obtain bivariate analysis of the data, and to estimate logistic regression equation of the likelihood of the dependent variable. These findings are interpreted in combination with the information obtained qualitatively.

**Results:** Compared to living in a family of orientation that included both parents, living in a family of orientation that included “other” adults, other than mother, father, or grandparents, at age 11, significantly reduced the likelihood of condom use at first sexual encounter among adolescents. Also, communication on sexuality issues with a co-resident parent significantly increased the likelihood of both HIV/AIDS awareness and condom use at first sexual encounter among adolescents. The likelihood of condom use increased very significantly when communication was with a grandparent than with a parent(s). On the other hand, punishment for sexually related behaviour by a resident adult family member significantly decreased the likelihood of condom use at first sexual encounter among adolescents.

**Conclusion:** On the basis of these results, it is concluded that communication about sexual and reproductive health issues by significant adult family members with their children should be promoted.

# Chapter 1

## 1. Introduction

Adolescent sexuality is a contemporary issue that has been investigated by many researchers to date. It is notable that reproductive health issues affecting the young generation have become a major concern. The worldwide HIV/AIDS scourge with its negative impact on future productive and reproductive populations has necessitated this concern. In a bid to address this problem, mass media campaigns have been mounted to educate people on the dangers of HIV/AIDS and to try to change their attitudes and behavior to adopt safe sexual practices. However, despite all these concerted efforts, available evidence in some countries like Botswana shows high HIV/AIDS prevalence rates, especially among the youths. The 1998 National HIV/AIDS Sentinel Surveillance studies of pregnant women reported median HIV prevalence of 38.5%. Youths aged 15-29 years showed the highest infection rate, accounting for 56% of the reported cases of HIV signs and symptoms during the first quarter of 1996 (Botswana MTP II). This therefore calls for the development of more comprehensive intervention strategies that can contribute more effectively to halting the spread of HIV/AIDS among the youths.

### 1.1 The Research problem

Despite available evidence that family background factors, including parental influences such as communication, exert a strong effect on adolescent sexual behavior (Ooms 1981) research in this area is surprisingly lacking and almost non-existent in Botswana. Family context plays an important role in the socialization of children and adolescents. According to the

“biopsychosocial” model developed by George Engel (1977), there is a hierarchical interdependent relationship between the biological, psychological, individual, family, and community systems. The dynamic interaction between these different levels of integration reflects the belief from a systems perspective that a change in one level results in corresponding changes in other levels (Joan et al 1994). It is therefore imperative that any discussion about health-related behaviors should include the family, since it is in the family context that health habits are learned (Young et.al, 2001).

The family is an important institution for procreation. Adolescents are the products of such institution. Single-parent family status, large family size, severe conflict within parental marriage, and authoritarian or punitive parenting have for example, been found to increase the likelihood of adolescent pregnancy (Gage 1998).

A major difficulty in studying the impact of family background on adolescent sexuality is that in many African societies culturally entrenched norms and values inhibit discussion of the issue of adolescent sexuality. Studies in Botswana have shown that parents are against the teaching of SRH to their children for fear that it will encourage the young to experiment sexually (Ingstad & Saucedad 1987; Boonstra et al 1998; MoH 1999). Despite this unjustified apprehension, other research findings have shown that in fact the opposite is correct. For instance, Brooks-Gunn & Fastener (1989) have reviewed a study by Jessor & Jessor (1977), which found that teens who rate perceived communication with their parents as poor were more likely to initiate sex early. Consequently, while family background factors clearly do have an effect on adolescent sexuality, our present understanding of the exact

nature of this effect remains limited. It is therefore incumbent upon researchers to determine how family background impacts upon adolescent sexuality. This may also facilitate the development of intervention strategies that combine the targeting of family level factors, with the established approaches that incorporate peer and community level influences.

## **1.2 Study Objectives**

Adolescents attending secondary schools in Selibe-Phikwe constitute the target population for the study. Controlling for individual and household level variables the main goal of the study is to determine the effect of family background on:

Awareness of HIV/AIDS

Condom use among the sexually active

In addition, and controlling for individual and household level factors, the study will also assess the relative importance of family background, peer influences, community level factors, and a combination of family background, peer influences, and community level variables on:

HIV/AIDS awareness

Condom use among the sexually active

It is hoped that this study will contribute towards the knowledge base for planning and implementation of effective HIV/AIDS prevention programs that targets adolescents in

Botswana. The study results may also be of interest to the academic fraternity in guiding future research in this vital area.

### 1.3 *Definition of terms*

**HIV/AIDS awareness** is knowledge of: a) all the conventionally accepted ways of preventing HIV transmission (staying with one faithful partner, using condoms during sex, ensuring that injections are done with sterile needles and abstaining from sex) and b) knowledge of the following ways by which HIV *cannot* be transmitted/prevented (having a good diet, touching a person who has AIDS, mosquito bites, eating from the same plate with someone who has AIDS)

**Condom Use** – In this study condom use refers to first sexual intercourse

**Adolescents** - The Botswana educational system employs the following age categorization:

- Children under 6 years - preschool age
- 6-12 years – elementary (or primary) school age
- 13-17 years – high (or secondary) school age
- 18-24 years – college/university age.

However, in practice some pupils' age are found to be higher than the stipulated official requirement, either due to higher age at entry-point or as a result of re-admission. For the purposes of this study therefore, adolescents will refer to persons aged 12-19 years.

It is also worth noting that **age 11** has been selected as a reference period to approximate immediate pre-puberty time. This is based on the assumption that puberty begins at 12 years.

**Family background** - at age 11:

- a) the subject's family of orientation namely, the significant adult(s) family member (both parents, mother, father, grandparents, or other family arrangements) who lived with the subject
- b) communication on sexuality with either co-resident or non-resident family members
- c) punishment for sexually-related behavior, from co-resident adult family member(s).

**Household** – the study adopts the Botswana census definition of household. Consequently, in this study household will refer to the person or group of persons who currently occupy the same living quarters and eat from the same pot as the subject.

**Community** – This will refer to a) the area where the subject lives and b) interaction with peers as a form of sub-community.

**Sexuality** – It will refer specifically to HIV/AIDS awareness and condom use at first sexual intercourse.

## 1.4 Hypotheses

1. Compared to other types of families of orientation at age 11, a family of orientation that includes both parents is more likely to:
  - a) Increase the level of adolescents' awareness of HIV/AIDS
  - b) Increase the likelihood of condom use at first sexual intercourse by adolescents
  
2. Communication on sexuality at age 11, with a resident family member, is:
  - a) directly related to the level of adolescents' awareness of HIV/AIDS
  - b) directly related to the likelihood of condom use at first sexual intercourse
  
3. Communication on sexuality at age 11, with a non-resident family member, is:
  - a) directly related to the level of adolescents' awareness of HIV/AIDS
  - b) directly related to the likelihood of condom use at first sexual intercourse
  
4. Punishment for sexually related behavior at age 11, by a resident adult family member, is:



- a) negatively related to the level of adolescents' awareness of HIV/AIDS
  - b) negatively related to the likelihood of condom use at first sexual intercourse
5. Compared to both peer influences and community level variables, family background variables are more important in determining both awareness of HIV/AIDS and condom use among adolescents.
6. A combination of family background factors, peer influences, and community level variables are more important in determining both HIV/AIDS awareness and the use of condoms among adolescents, than either family background factors alone, peer influences alone, or community level variables alone.

## **Chapter 2**

### **2. Literature Review and Conceptual Model**

#### **2.1 Global overview of teenage sexuality and HIV/AIDS problem in Botswana.**

Teenage sexual activity has increased in many countries around the world during the last two decades. Surveys of premarital sexual activity throughout Africa have found wide variations, ranging from 4 percent in Burundi to over 75 percent in Botswana and Liberia (Population Reference Bureau 1992). Many factors have been associated with this increase including inter alia; changes in the traditional control on sexual activity, development of communication networks, schooling, and urbanization (Gage Brandon & Meekers D 1992). High rates of teenage pregnancies clearly show that a significant number of adolescents are engaging in unprotected sex. Many studies on adolescent sexuality have reported such factors as early age at first sexual intercourse and high numbers of sexual partners. It has been documented that in general, adolescent sexuality is characterized by low contraceptive usage at first sexual intercourse and overall lack or inconsistent use of contraception, especially condom use. This early sexual debut and risky sexual behavior predisposes adolescents to the risks associated with STD's and HIV/AIDS.

According to WHO, 333 million cases of STD's occur worldwide each year, and at least 111 million of these cases occur in people under the age of 25 years (WHO 1999). Nearly half of all HIV infections occur in men and women younger than 25 years. Due to the longer

incubation period of AIDS, the implication of high reported AIDS cases among those persons now in their 20's show that many contracted HIV before reaching age 20. There is increasing evidence around the world that many factors play a significant role in promoting heterosexual HIV/AIDS transmission. These factors include inconsistent and little or no condom use, large sexual networks, "age mixing"-typically between older men and young women or girls, women's economic dependence on men, thus robbing them of control over their sexuality and reproductive health decision-making power. In the present state of an increasing worldwide HIV/AIDS pandemic, the promotion of consistent condom use among sexually active adolescents is crucial in the prevention and spread of HIV among this cohort.

In Botswana, HIV sentinel surveillance of Antenatal clinic attendees began in Gaborone in 1990. Since 1992, National Sentinel Surveillance Surveys (NSSS) have been conducted in the major urban areas, which include Gaborone, Francistown and Selibe-Phikwe. Sentinel surveys have been carried out to assess the population at risk and the rate of HIV/AIDS infection rate among pregnant women. It is worth noting that the HIV virus in Southern Africa is transmitted primarily by unprotected heterosexual intercourse. It has also been reported that the HIV prevalence rates in Botswana are among the highest in the world (UNAIDS 2000). The 1998 HIV Sentinel Surveillance report indicated that prevalence among pregnant women averaged 38% nationally, and reached almost 50% in some locations. HIV prevalence peaks among women in the age groups 20-29 years, and in men in the age groups 30-39 years. Evidence also shows high prevalence in the rural areas – about 80% of the rate in urban areas (Abt Associates Inc., 2000).

The median HIV prevalence among antenatal clinic attendees tested in urban areas increased from 6% in 1990 to 43% in 1998 with a range of 39 to 50% in 1998. HIV prevalence among antenatal clinic attendees less than 20 years of age who were tested increased from 18% in 1992 to 33% in 1998 (UNAIDS, 2000).

## **2.2 Influences on Adolescent Sexuality**

Various factors interact to influence adolescents' sexual behavior. These factors operate at either the individual, family, household, and community levels. Despite the fact that this study's primary focus will be on the influence of family background per se, it is important to control for the potential effect of these other factors. This is essential in order to make well-informed conclusions based on an assessment of the strength of their relative influence in order to devise comprehensive intervention strategies that will be more effective in halting the spread of HIV/AIDS.

### **2.2.1 Relationship between family background and adolescent sexuality**

Parents and other family members play a very important role in the decision-making and behavior related patterns of adolescents. The behavior is either learned through socialization or by observation. As children grow up, they tend to emulate the behavior and values of their parents or other influential family members. This is partly explained by the fact that parents are seen as role models for these young people. From a socio-economic point of view,

adolescents are still highly dependent on their parents or family head for the provision of essential necessities for their lives. Their psychosocial development is groomed at this level. It is true that a substantial proportion of adolescents are still regarded as “children” in the sense that they are still in school. They are thus subject to the authority of adults, and many institutions that include religious bodies, the family and the educational system. All have vested interests in shaping the growth, behavior, and values of young people (Gage A, 1998). It is imperative, therefore, to consider the influence that family background plays in issues of adolescent sexuality.

In Botswana, the influence of family background on adolescent premarital sexual behavior has traditionally been acknowledged, especially in the decision-making power that the significant adult family members exerted in customary marriage arrangements. According to Tswana customary law, when a young girl becomes pregnant for the first time and the man does not show any serious commitment to become her prospective husband, her father, uncle or other influential male relative may bring the case to the tribal court and sue the man for “damages”, that is, spoiling the girl’s virginity (Instad & Saugestad 1986). This penalty is serious for the first child because it is believed that having a child before marriage has the potential to reduce the chances of a woman to secure a prospective husband.

This practice is still common nowadays, although the legal authority that sanctions charges for child support may have shifted from traditional arrangements to modern administrative structures. Premarital childbearing may also spoil the chances of a girl to complete her studies at school. Adolescents grow up with the knowledge that premarital sexuality is

greatly disapproved by their parents. They also know that their moral code of conduct and behavior should be within certain limits. Physical punishment that involves thrashing and other verbal threats may be meted against those who overstep these limits or show signs of parental disobedience, such as coming home late at night without any satisfactory explanations (Instad & Saucestad 1987). This restriction of movement, especially at night, shows how parents try to indirectly influence their children's sexual behavior. Although sneaking out at night to engage in sexual activities without parental knowledge reflects the difficulties in trying to impose strict control over human sexual behavior.

It is also worth noting that there are different forms of household composition and arrangements commonly found within urban settings that may shape adolescents' sexual behavior. Common household forms in urban areas are those that involve husband/wife relationship, female-head, male-head, and cohabitation or living together. Nuclei family arrangements are more common in urban areas, whereas extended family units are the norm in rural areas. The socialization experience that adolescents gain during their childhood is determined to a large extent by the different living arrangements and parental support and guidance. It is therefore expected that teenagers who live alone in rented apartments, school dormitories or live with either a single brother/sister or non-relative are more "free" or "loose" and hence vulnerable to sexual coercion and experimentation than those who may be living under the regular protection and authority of their parents.

Concern has also been raised in recent years regarding the lack of communication on sexuality matters between parents and their children (MoH 1999). The alarming rates of

teenage pregnancies and the resultant school dropouts has motivated this concern. There has also been the gradual phasing out of the former initiation schools as a result of urbanization and modernization of our present day society. The responsibility for family life education has been shifted to schools, although the content and quality of such education remains questionable. As in other cultural settings, in Botswana, the responsibility for transmitting sexual information to children has relied on other adult relatives such as grandmothers, uncles, aunt, older siblings, or close cousins, rather than with the nurturing mother or father. One could therefore question why there has been such a “skip pattern” of intergenerational sexuality information flow.

One possible explanation could be linked to the parents’ attitude toward their children’s sexual involvement. It is highly expected that where premarital sexuality is disapproved and virginity more valued, as is the case in Botswana, adolescents will find it very difficult to initiate any sexuality communication with their parents, lest they run the risk of being labeled derogatory names or being perceived as sexually active. They therefore find more comfort in obtaining such information from other reference people who may not be in direct control of their lives. This may also depend on how they have been socialized by their parents. Boonstra et al (1998) have reported that in general, the socio-economically deprived families seem to be most at risk for teenage pregnancy and HIV transmission among their children. This may be related to “sexual networking” and “sex for money”(as opposed to prostitution), which is more common in these families, especially the poor “female-headed” households. It is therefore highly conceivable that children growing under such circumstances will tend to emulate the behavior of their significant family members.

Regarding sexuality communication, published material is lacking on the different categories of family members with whom adolescents have discussed sexual matters and contraceptive use, who initiated the talk, how often the discussions occurred, and the timing, context and specific content of these discussions (Gage 1998). Very little is also known about the significance of parent–adolescent communication, its impact on the adolescent’s likelihood of engaging in sexual intercourse in the first place, and about the effectiveness of these communication on promoting safer sexual practices by adolescents.

Other studies in Botswana have shown that parents are also against schools teaching SRH to their children for fear that it will encourage the young people to experiment sexually (Instad & Sausestad, 1987; Boonstra et al, 1998; and MoH 1999). Although there is no concrete evidence to substantiate those fears, my presumption is that parents are not necessarily against such undertaking. What parents may be concerned about is the form and appropriateness of the content and the necessary skills possessed by teachers on imparting such culturally sensitive sexuality knowledge to their children. Reported cases of some teachers impregnating school children may only serve to validate such fears. It has been reported that even teachers acknowledge their lack of appropriate skills and feel uncomfortable to teach this subject to their students (Boonstra et al., 1998).

However, my presumption is that in light of the current infection rates and the HIV/AIDS mortality related cases among the youths in particular, some parents may have started to acknowledge the urgency of communication with their children on sexuality issues,



especially on HIV/AIDS awareness. The effect of mass media campaigns and advocacy by the political leadership on issues of sexuality could gradually break this culturally entrenched barrier. The readiness to talk could also be motivated by parents' love for their children. Their expected role of providing care and guidance on survival strategies for them has become more urgent than ever before.

### 2.2.2 *Peer influence*

It is against the backdrop of highly restrictive sexuality communication between parents and their children that young people are left at the mercy of obtaining the information from their peers, which in most cases may be half-truths, myths or unfounded facts (Boonstra *et al.* 1993). On one hand, parents, teachers and other adults frequently stress the negative, that is, the possibility of disease or unwanted pregnancy. On the other hand, their peers consider sex and sexual relationships exciting and pleasurable. This conflicting information causes confusion to them. Clearly, the peers themselves belong to the same cohort of people from the existing social and cultural background. Their interaction at schools and the establishment of new friendship networks consolidates opportunities for more information sharing. Discussions about sexuality issues affecting them may be done under occasional gossips and rumour mongering. They are also aware of how difficult it is for them to initiate any communication on their sexuality problems with the elders because of the culturally perceived sensitivity of the issue in their communities. In most secondary schools, very limited HIV/AIDS topics have been infused in the school curriculum. Some schools have HIV/AIDS awareness programmes that promote discussion of HIV/AIDS issues in extra-

curricula activities, like social clubs/societies in schools. However, the promotion of condom use at schools remains a very contentious issue, with many teachers having religious and moral objections to such approach (MoE, 2000)

### 2.2.3 Community influence

Adolescents also socially interact with people who live in their communities. The “significant others” are normally people who propose all sorts of enticements to woo these young people in order to satisfy their own sexual pleasures. It should be noted that a person should never be treated as an isolated identity but as a person living in a given type of family setting and community background. It is this contextual approach to understanding the somewhat complex issues related to adolescent sexual behavior that this study purport to investigate. One assumption is that if the sexual behavior change cannot happen to more older and responsible people in the community, then it will prove difficult for sexual behavior change to occur to these teenagers. Being in that transition stage, they are still battling with serious identity crisis. Common-sense judgement clearly shows that resistance to these enticements will be very difficult for them, especially those teenagers who come from low socio-economic family background. Their low self-esteem and lack of assertiveness in SRH decision-making places them in high vulnerability to sexual compulsion and violence. Among adolescent females, this implies that they may have “little leverage with which to say “no” to unwanted sex or oppose male partners who argue that no risk is involved in having sexual relationships”(Gage 1998, pp155). As a result of the entrenched cultural norms that promote male dominance in SRH matters, the decision to use/not use a

condom often remains unchallenged by the female partner. It is therefore expected that female adolescents will be less likely to have used a condom at first sexual encounter than their male counterparts.

With the increasing rate of female-headed households, low employment opportunities for women and the general deterioration of the standard of living, a person's health concern may take secondary position to own economic survival. If we still have older men in the community who still breed the attitude that having sexual intercourse with young people will cleanse their blood of HIV infected virus (Doehlie & Maswabi 1998), then clearly these young people will find it hard to resist the temptations to conform to the norms of these significant others. Economically, they are themselves in demand of money or whatever materially sustained pleasures that might not be adequately provided by their own families. Startling revelations of the recent emergence of the so-called "sugar daddies" and "sugar mummies" can only worsen their already vulnerable situation. Hence, the social interaction of these young people with other community members predisposes them to the dangers of unprotected sex. Their low socio-economic position in society means that they do not even have the decision-making power in matters affecting their own sexuality. This increases their personal vulnerability to HIV/AIDS infection.

#### **2.2.4 Mass media campaigns.**

The alarming rate of HIV/AIDS transmission and its associated repercussions has attracted a lot of media attention. The government, in collaboration with other NGO's and international donor agencies have all embarked on an intensive mass media crusade to sensitize people about the nature and mode of transmission of HIV. The messages are primarily focused on the prevention aspect since there is currently no cure for AIDS. They are based on the simple "ABC" strategy of "Abstain, Be faithful, and Condomize".

On one hand, indications are that the mass media's role in promoting the prevention of HIV infection has proved to be successful at increasing awareness of people about the conventionally accepted ways of preventing HIV infection. On the other hand, it has proved to be deficient in dispelling myths and misconceptions related to HIV prevention. This knowledge gap result in promoting stigmatization of those affected, and has the potential of mitigating all HIV/AIDS prevention efforts. Social marketing of "Lovers Plus" condoms by PSI and its provision of youth-friendly communication services seem to have promoted condom use by young people (SIAPAC, 1997). According to studies in Botswana, the level of knowledge about HIV/AIDS *transmission routes* among adolescents at schools has increased to as high as 72% since the launch of intensive mass media campaigns (NACP 19, 1993). However, contradictory evidence between theory and practice has revealed that despite this strength of knowledge, those sexually active teenagers who "always used" condoms were reported to be as low as 20.7% (NACP 19, 1993). Unfortunately, this is the

insurmountable challenge facing adolescents in the current HIV/AIDS era, as reflected by reports of high pregnancy-related school dropouts. It is reported that in 1997 alone, 54% of female dropouts in SSS and 47% in CJSS was due to pregnancy (MoE, 2000). The mass media campaigns have now shifted in orientation to advocacy, with the highest political leadership publicly urging parents to start communicating with their children on sexuality issues. The current President, Mr. Festus Mogae, who is also chairman of NAC, is spearheading this initiative.

Among multi-media, the radio is the most popularly used source of information. Its advantage is that it enjoys wide coverage and it can be affordable as compared to TV/Video. However, the target of these messages may not reach adolescents, who are most probably more exposed to other modern entertainment media. If that is the case, then such campaigns may prove to be ineffective in changing attitudes and sexual behavior of this highly vulnerable segment of the general audience. In Botswana, the state media runs a radio program on “HIV/AIDS Tips”, which is aired every time before the official news bulletins. This programme has been intensively sustained to such an extent that people have now began to think that news on HIV/AIDS are causing “listener fatigue”. The implication of this is that people may simply resist hearing what they are told.

#### 2.2.5 Effect of alcoholism

Social interaction at common places of leisure and entertainment with resultant alcohol consumption also influences sexual behavior. These places, which include bars, discos or

night entertainment clubs, attract young people. Alcohol effect may influence their ability to make informed decisions and make rational choices. It has been pointed out in other studies about the increase in alcohol consumption rate, especially among teenagers, and the effect of alcohol on a man and woman alike (Campbell and Ntsabane, 1995). Of grave concern is the fact that men who are intoxicated with alcohol are more likely to “fumble over condom application” (Rakgoasi and Campbell 1997). Among women, the intoxication by alcohol weakens their ability to resist unwanted and unprotected sex and therefore exposes them to STDs including HIV/AIDS.

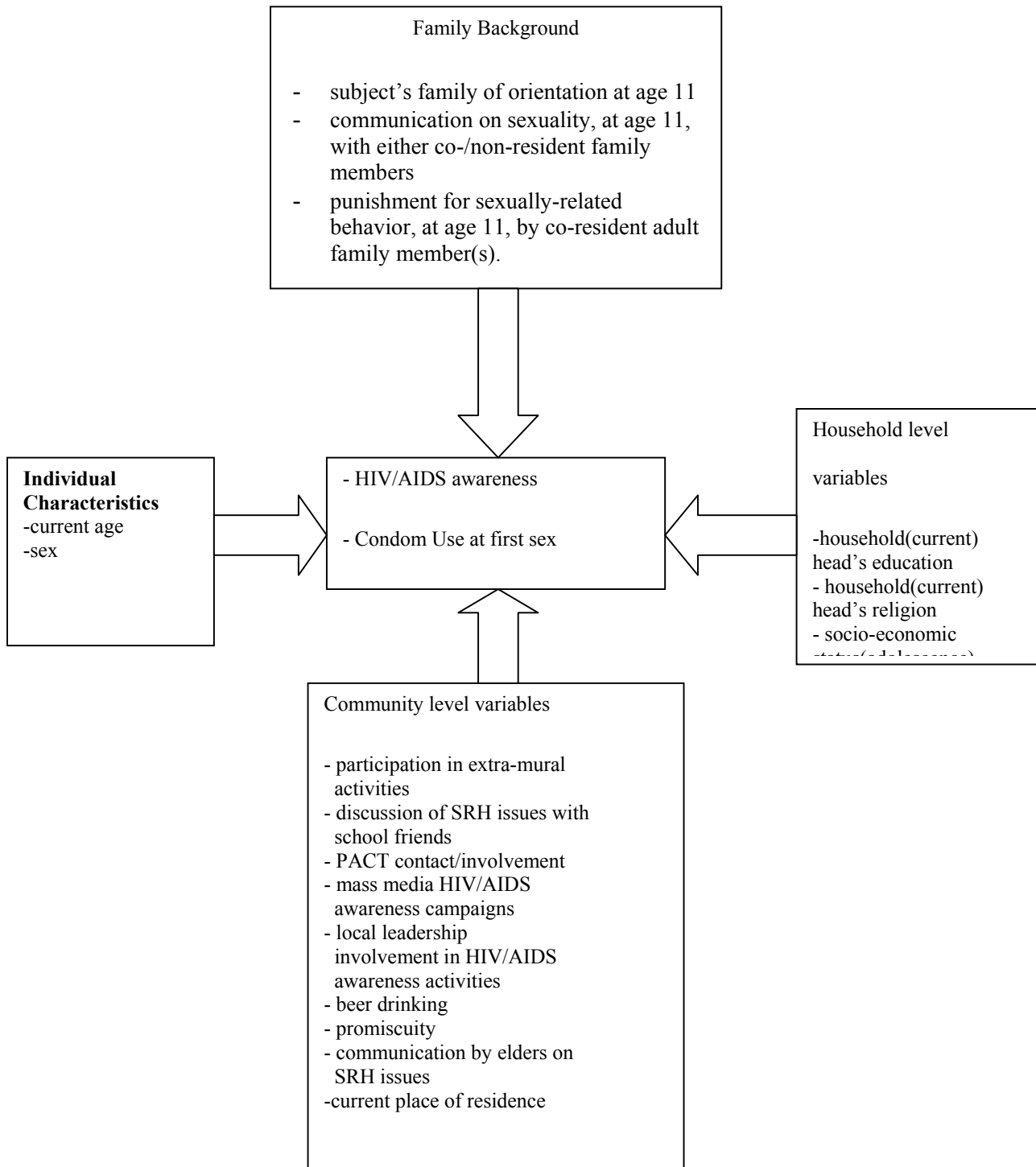
Traditional homemade brews for sale are also common in many poor households in some urban localities. If we still have a significant proportion of young people flocking to such alcohol-selling places, then these adolescents will almost invariably succumb to all kinds of pressures. To them agreeing to demands for having casual sex in return for economic favors or alcohol-offers is part of enjoying life. Since these young judge older people as role models, their own evaluation of reproductive health issues will be relegated to secondary consideration because they lack experience of life. They are therefore systematically pressured to behave like those “significant others”. This increases the risks of engaging in unprotected sex and contracting STDs, including HIV/AIDS.

### **2.2.6 Attitudinal barriers**

A person's negative attitude of a condom's efficacy for protection influences his likelihood that he will not use it. These attitudes are more likely to be promoted by the level of self-perceived threat of infection with the virus (Adetunje 2000). The higher this level, the higher the likelihood that one will use a condom in the next sexual encounter. A study in Botswana on "Young People, Sex and Aids" (1993), found a significant proportion (60%) of young people who strongly expressed the view that "someone who gets AIDS can only blame himself". It is this victim-blaming attitude, and the negative attitude that "AIDS in Botswana is spread by foreigners", that may buttress negative perceptions about its cause and prevention methods, especially condom use. On the other hand, girls who always ensure condom availability or carry condoms around run the risk of being perceived as "cheap", "unclean" or being ready for sex or sexually available, a situation that would discount their eligibility as potential wives (Gage, 1998). Such negative attitudes have profound negative implications on the intention to use condoms in sexual encounters, especially among females.

### 2.3 Conceptual Model

Figure 1: The Antecedents of HIV/AIDS awareness and Condom Use among Secondary School students in Selibe-Phikwe (Botswana).





The conceptual model presented in figure 1 is derived from the issues discussed in the literature review. It reflects the different levels of influence, namely family background, individual, household, and community, which are assumed to influence adolescent awareness of HIV/AIDS and condom use. The hypothesized relationships between our variables of interest (family background factors) and each of the dependent variables are discussed in section 1.4. The expected relationships between the control variables and the dependent variables are discussed below.

### **2.3.1 Individual Level Control Variables**

*Age* – Current age of the respondent is likely to have a direct influence on awareness of HIV/AIDS. It is expected that “older” adolescents will be more sexually experienced and hence more knowledgeable of SRH issues than their “younger” counterparts. This variable is also expected to have a direct influence on the likelihood of condom use at first sexual intercourse among adolescents.

*Sex* – Evidence from other studies (NACP 1993) have found no significant differences by sex on awareness of HIV/AIDS. Therefore this variable is not expected to have any significant influence on awareness of HIV/AIDS among adolescents. However, it is expected that males will be more likely to have used condoms at first sexual intercourse than females because of prevailing social mores that promote dominance of males in inter-partner decision-making regarding use/non-use of condoms (refer to sections 2.2.3 & 2.2.6).

### 2.3.2 Household Level Control Variables

*Educational level of head of household* – Education promotes access to information and knowledge. Hence, the education of the household head implies more knowledge/awareness that can have a “spill over” effect to the adolescent’s own behavior. It is expected that this variable will have a positive influence on the likelihood of either awareness of HIV/AIDS or condom use among adolescents.

*Religion of head of household* –Religious affiliations may promote social values and norms that promote sexual passiveness or conservatism about SRH issues. Because of the value attached to virginity and to only have “sex after marriage”, religious people are less likely to discuss sexuality issues with their children, and condom use in particular. On the other hand, Traditional religion may promote misconceptions and myths about HIV/AIDS, such as the belief that “AIDS can be cured”. Therefore, this variable is expected to have a negative influence on the likelihood of both HIV/AIDS awareness and condom use among adolescents.

*Socio-economic status* –Improved socio-economic status implies more access to resources that include household material goods like TV, radio etc, which have the potential to increase awareness/knowledge. It also improves access and affordability to pay for other goods and services. This variable is expected to have a direct significant influence on the likelihood of either awareness of HIV/AIDS and condom use among the adolescents.

### **2.3.3 Community Level Control Variables**

*Exposure to HIV/AIDS Awareness Campaigns* – The role of mass media in promoting awareness of HIV/AIDS and its limitations in changing people’s sexual behavior has been noted in the literature (refer to section 2.2.4, page 13). This variable is expected to have a positive significant influence on the likelihood of awareness of HIV/AIDS but no significant influence on condom use at first sexual encounter among adolescents.

*Elders Communicate on sexuality* – Communication about sexuality issues among elders improves information sharing on SRH and can help adolescents to search for more knowledge and facts related to various sexuality issues, especially HIV/AIDS. It is therefore expected to have a strong positive influence on the likelihood of HIV/AIDS awareness among adolescents. However, because of the prevailing negative attitudes/misconceptions about condom use among the sexually active population, this variable is expected to have a negative influence on the likelihood of condom use among adolescents, for both sexes.

*Involvement of local leadership in HIV/AIDS awareness campaigns* – Community mobilization and involvement of NGOs in HIV/AIDS awareness activities are waged as part of government’s multi-sectoral approach to fight the HIV/AIDS epidemic. Community participation is more evident in official commemoration events, such as “World AIDS Day” celebrations. Hence, this variable is expected to have positive significant influence on the likelihood of HIV/AIDS awareness and condom use among adolescents.

*Elders have multiple sexual partners* – Promiscuity increases the risks of HIV/AIDS infection, especially if it is accompanied by inconsistent or non-use of condoms. Because of the prevailing social mores that are gender biased in issues of sexuality, this variable is expected to have negative influence on both likelihood of awareness of HIV/AIDS and condom use among adolescents.

*Place of residence* – Urban/rural differences with regard to accessibility to education, information, living standards, attitudes, cultural norms, etc, are expected to have an effect on adolescents' awareness of HIV/AIDS and their sexual behavior. This variable is expected to have a direct influence on the likelihood of HIV/AIDS awareness and condom use among adolescents who resided in urban than rural areas, at age 11.

#### **2.3.4 Peer Influences**

*PACT contact/involvement* – It is expected that those respondents who have been exposed to PACT activities will be more knowledgeable on SRH and much more empowered in skills related to assertiveness, self-esteem and reduction of risky sexual practices. They will be more likely to be aware of HIV/AIDS and would have used a condom at first sexual intercourse, than those who are not exposed to PACT.

*Participation in extra-mural activities* – Extra-mural activities are opportunities for adolescents to mingle with their peers and hence influence each other's thinking/behavior.

Therefore, this variable is expected to have a positive influence on the likelihood of awareness of HIV/AIDS and condom use among the adolescents.

*Discussion of SRH with friends* – Discussions about SRH issues at schools give students an opportunity to develop a quest for more knowledge and to try to find solutions to their sexuality problems. Therefore, this variable is expected to have a direct influence on the likelihood of awareness of HIV/AIDS and condom use among adolescents.

## Chapter 3

### 3.0 Methodology

#### 3.1 An overview of methodological issues

Data collection techniques allow researchers to systematically collect information about the subjects of study and about the settings in which they occur. In research there are basically two methodologies used for data collection and analysis. These are the qualitative and quantitative approaches. Hein deVries et al, (1992), have documented that the two approaches differ in four aspects: namely, the research object, the research design, data collection, and data analysis. The discussion of the relative strength of the two approaches also brings into central focus the issues of validity and reliability. Given this background, my discussion of these methodological approaches shall focus on their application in different settings, their strengths and weaknesses and the dilemmas encountered in combining both methods to enhance the validity and reliability of data.

##### 3.1.1 *Validity and reliability defined*

Validity refers to how well a test or an instrument measures what it purports to measure. In surveys, validity represents the extent to which the questionnaire or other instrument used to collect data is able to approximate the truth about people's behavior or knowledge. There are

two aspects of validity that worth mentioning. “Convergent validity” refers to the level of agreement or concordance between reports derived from different methods of data collection. In the context of sexual behavior surveys, the different methods for data collection identified by Dale and Cleland (1994), have been found to be face-to-face structured interviews, in-depth interviews, self-completion questionnaires, repeated interviews and telephone interviews. These methods could be combined together, depending on the objectives of the study, in what is sometimes referred to as “triangulation” of methods. On the other hand, external validity refers to comparisons of aggregate study results with some external source of information. For example, comparison of survey results with those in a census. However, external validity may also be affected by sampling techniques, participation bias, item non-response, as well as response bias. Again, Dale and Cleland (1994) point out that in the context of sexual behavior research, participation bias has been a major concern. This has been attributed to negative attitudes and stigmatization of some illnesses such as AIDS.

Conversely, reliability of a test or instrument is defined as its ability to give consistent results over many tests. Reliability may be related to the mode of data collection, the time interval of recall, characteristics of both the interviewer and the place of interview as well as to other social and demographic variables such as education and occupation.

*In order to increase the validity and reliability of findings, this study will utilize a combination of quantitative and qualitative methodologies.*

### *3.1.2 Qualitative Versus Quantitative research methods*

Qualitative techniques have been described as those “flexible techniques” employing loosely structured interviews, focus group discussions and participant observation. In the quest for research into aspects of human behavior, these methodologies have been found to be “particularly relevant for studying the lifeworlds, lived realities and everyday practices of people in a particular social setting” (Kvale pp94). Thus, qualitative research is basically exploratory and hypothesis generating. Its main focus is in describing the way respondents define, experience, and constitute their world (Hein de Vries et al, 1992). Since human interaction provides the basis for data collection, this method has been hailed as providing rich, “thick” and in-depth knowledge about the beliefs, attitudes, values and norms related to people’s behavior. Data collection in qualitative research is more unstructured and open. The main interview findings are expressed in language which is transcribed into written format for analysis.

On the other hand, the focus of quantitative research methods is more on “comparing groups and discriminating separate (units of) variables”(Hein de Vries et al, pp102). Here the knowledge is quantified and the main interest is on testing hypothesis. Data collection uses pre-structured questionnaires. Data analysis is based on numerical statistical research



methodologies. Quantitative techniques are thus hailed for being objective since they are devoid of human subjectivity. The results obtained from the sample can be generalized to the population of interest.

Despite the inherent strengths in both methods, the debate still rages on the validity and reliability of the results obtained using either method for data collection. The apparent skepticism is motivated by the weaknesses inherent in each of them. Qualitative methods have on one hand been criticized as being unscientific, whereas doubts have been cast on the representative nature of quantitative methods, especially pertaining to investigations of human behavior (Buchanan D, 1992). However, some researchers are now agreeable on the possible benefits of combining both methods to obtain more reliable data. As Hein de Vries (1992) point out, “ combining the two approaches results in a synergistic effect, because the outcome of the two used together is greater than the effects of either used separately”.

Studies on human sexual behavior have been very scanty and limited to the context of marriage (Dare & Cleland, 1994), and fertility determinants. Until very recently, and with the advent of HIV/AIDS, it has been generally observed that research on sexual behavior has been one of the least explored dimensions of human life. Very limited number of studies have been carried on adolescent sexuality in particular, and the few studies that have been done have employed the WHO/GPA KABP-style survey methods to investigate knowledge, attitude and behavior related to HIV/AIDS and condom use. In my discussion of the different methodologies related to my area of study, I will occasionally make reference to reviews of studies by Dale and Cleland (1994), on “Reliability and validity of survey data on sexual

behavior”. The reviews are more informative since the primary objective of any study design is to improve the validity and reliability of the data collected using different methodologies. And one of the very challenging topics for investigation relate to people’ sexuality. For one reason, greater focus is geared towards changing people’s sexual behaviors towards safer sexual practices since there is currently no cure for the deadly HIV/AIDS virus. Secondly, sex is purely a private activity and people have been found to generally feel threatened and embarrassed when asked about their sexual activities, and thus give deliberately inaccurate answers (Herol and Way, 1988). It has also been reported that the extent of misreporting depend on a host of different factors such as: the age and sex of the interviewer; the location of the interview; the recall time of sexual activity investigated; the nature of the question being asked; and sexual terminology (Dare and Cleland, 1994).

#### Evidence from other studies on adolescent sexual behavior.

Dale and Cleland (1994) have reviewed a study by Wadaworth et al. (1993) in which the investigators had combined the different methods of data collection. The approach, commonly known as “triangulation”, used both self-administered questionnaires and face-to-face interviews. It was revealed that the level of item non-response was low in face-to-face interviews as compared to the questionnaire. Aslo, the respondents were found to be more willing to reveal censored behavior in self-administered questionnaires than in face-to-face interviews and the preferred mode of data collection was interview with a questionnaire component. Dale and Cleland (1994) also report another detailed comparison of interviews and questionnaires which was made possible in another study by Davoli et al.(1992) among

383 students aged 13 to 21 years in Rome. Data were collected by both methods. The findings showed a high degree of reliability. It was also found that face-to-face interviews yielded an underreporting of coital experience, particularly at young ages, and an overreporting of condom use, as compared to self-administered questionnaires. A plausible interpretation of the differences, according to Dale and Cleland (1992), was that interviews were more vulnerable to social desirability bias than questionnaires.

Other studies on sexual behavior that have combined the two methods for data collection have reported great variability in their findings, although no tests have been done on the validity and reliability of the instruments used for their data collection. One study by Meekers and Ahmed (2000) on “Contemporary patterns of adolescents sexuality in urban Botswana” combined both qualitative and quantitative methods for data collection and analysis. The data came from BARHS survey in 1995 and included a randomly selected sample of 2410 males and females aged 13-18 living in the urban townships of Lobatse and Francistown. In each of the two townships, the respondents were selected using a multi-stage sampling design. In each area, a starting household was identified for inclusion in the sample. Additional households were selected using a “pre-designed walk pattern”, and all those respondents aged 13-18 in each of the selected households were eligible for interview. Focus group discussions were conducted on the causes and consequences of schoolgirl pregnancy in urban Botswana. The main aim of the FGD’s were to investigate adolescent motivations for engaging in sexual relations and to illustrate the potential role of parents and the educational system. The focus group interviews were conducted in the premises of the University of Botswana in Gaborone. It included separate interviews with a group of seven second-year

male students and a group of five female second-year students. The language for discussion was in English. The analysis part used multivariate logistic regression to examine the effect of schooling variables, household headship and sources of reproductive health information on the likelihood that an adolescent is sexually experienced. Based on this methodology, the authors found that sexual activity increased with age and that female-headed households were associated with diminished control of teenage sexual behavior. The results also indicated that male adolescents with secondary education are more likely to be sexually experienced than those with little education. Overall, the reliability and validity of their findings is questionable, based on the methodology and the variables they included for data analysis.

Firstly, their data was lacking in many aspects. At the household level, data reflected only household headship status by sex. There was no data at family as well as community levels. Therefore, one wonders how the influence of parents was brought into the analysis. In fact, the effect of the many influential variables on adolescent sexual behavior at individual, household and community levels were ignored. Such variables are very important determinants of adolescent sexual behavior as discussed elsewhere in the literature.

Secondly, one could also question the criteria used for selection of respondents into FGDs, the language used for the discussions as well as the frequency of such sessions. The study shows that there were only two sessions involving students at University level for the group discussions. Clearly, their views were not representative of adolescents in the urban population. That was a very selective group of educated adolescents who were not only

influenced by their level of education, but also their living environment at the University where the FGDs were conducted. Also, more than one session could have been conducted among groups with divergent socio-economic background, taking into account the overriding objective of having a representative sample of urban adolescents as envisaged in the study.

A more detailed application of focus group discussions is found in a study by Hulton, et al (2000). The study investigated Ugandan adolescents' behavior, motivations, and perceptions of risk with regard to pregnancy and HIV transmission. The method of selection for the FGDs involved young people aged 17-18 who were still attending school and those who were not. Six single-sex FGDs were conducted separately for each group, with a total of 104 participants. Each group consisted of 8-12 participants. Screening was done to control for age and to avoid the presence of "experts" in the discussions. Class lists were used to select participants randomly. Two trained same-sex moderators facilitated the discussions. A female teacher who did not and had never taught in any of the three schools was included in the survey, and also an employee of an NGO. Same-sex observers were also trained to help with the organization, running, and analysis of the discussions. The discussions were conducted in both English and Lugisu (local language). Four pilot discussions were conducted prior to their actual study in order to identify important logistical problems, develop training programme for moderators and observers, and in refining the discussion guide. Each session was taped and the transcription was made directly after each discussion. A complete comparative analysis of the transcripts was conducted in order to incorporate broadly agreed-upon ideas and themes within the groups.

Another study that investigated adolescent sexual practice in Botswana was conducted by Rakgoasi and Campbell (1997). The study examined how sexual knowledge, attitudes and practices are formed as well as factors influencing adolescent sexuality. The study used stratified sample design to select a sample of 1500 adolescents between the ages of 15 and 24 years. In Gaborone, the selection of an appropriate sample size was based on an assumed proportion ( p) of sexually active youths. The selection of the sample population in each locality was done systematically. The study combined in-depth interviews and structured questionnaires. The discussants were selected through snowball sampling.

The statistical methods of data analysis used included Chi Square, Analysis of Variance (ANOVA) and multiple regression analysis. In bivariate analysis, chi-square was applied initially to examine the effects of some factors on sexual attitudes and behavior of adolescents. Multiple regression was used to isolate the determinants of adolescent sexual behavior. In order to use ANOVA and multiple regression analysis, the raw data corresponding to dependent (the response) and independent (predictor) variables were normalized through transformation of the natural logarithms. This transformation was found to have induced significant linearity in the data. The response (dependent) variables and predictors (independent) were presented and explained using multiple regression analysis. The findings from the study showed significant association (as reflected by the  $\chi^2$  at different levels of significance) of some variables identified at individual, household and family levels with adolescent sexual attitudes and behavior. However, even though their quantitative methodologies showed appreciable statistical predictive power, it is crucial to show the relative contribution of individual, family, household and community level variables' effect

on adolescent sexual behavior. This is very crucial since knowledge of the relative contribution of the variables identified at those levels will determine where intervention could be made possible and effective in addressing the problems associated with adolescent sexual practices.

### **3.2 *Study Design***

The study's target population is adolescents attending secondary schools at Selibe-Phikwe.

#### **3.2.1 Study Area**

Selibe-Phikwe

Selibe-Phikwe, the third largest urban area in Botswana, has been selected to represent adolescents in urban secondary schools. The town is located in the north-east of the country, and is about 550km from the capital, Gaborone. Situated 60km east of the main Gaborone-Francistown highway, Selibe-Phikwe has an estimated total population of 39 772, according to the 1991 Census. The town contains six (6) Junior Community Secondary schools (CJSS), which provide Forms 1-3 levels of education, and three(3) Senior Secondary schools (SSS) which provide Forms 4-5 levels of education. Two of these SSS's are under private ownership.

Selibe-Phikwe is a copper and nickel mining town. The mine has a predominantly male workforce, and an employment capacity of more than 5000. Copper is extracted in four mining shafts, with one being in the Selibe area - a small area bordering the town.

In order to diversify the economy, several manufacturing industries have been established, through the government's financial assistance policy (FAP), although many of these textile industries have suffered occasional closures because of poor management practices. These predominantly foreign-owned companies employ mostly women, but as a result of their occasional shut downs, a significant number of women have been in and out of jobs. The combination of rural-urban migration and rising female unemployment are primary contributory factors to high levels of female-headed households, poverty and high vulnerability to HIV infection.

The HIV/AIDS situation in this town is alarming. According to 1998 Botswana HIV/AIDS Sentinel Surveillance Surveys, the estimated median HIV prevalence rate among the population aged 15 – 49 years nationally was 38.5%. Selibe-Phikwe had the highest prevalence of 50.8%. Among those aged 15-19 years, the prevalence ranged from 20% in Kanye to 28.6% in Francistown and Selibe-Phikwe ( MTP II, 1997-2002).



### **3.2.2 Data Collection**

The study is cross-sectional, and used a combination of quantitative and qualitative methodologies.

### **3.3 Sampling techniques**

Selibe-Phikwe currently has:

- 2 Senior Secondary Schools (offering Forms 4 and 5), one public (with an enrollment of 1162 ) and one under private ownership (with 311 students enrolled). Students enrolled at the private school are mostly those whose academic performance at CJSS did not meet the admission requirements at the public SSS. It also included students who dropped out due to teenage pregnancy and could not be re-admitted into the same public school.
- 6 Community Junior Secondary Schools (offering Forms 1 to 3), with a total enrollment of 3376 students or approximately 74% of the town's total student population.

In addition, each Form in the Botswana secondary school system comprises approximately 12 streams (1 to 12), with an average of 25 students per stream.

The study incorporated both secondary schools. 4 CJSS were purposively selected in the sample. This selection was designed to take into account differences in the implied socio-economic context within which the schools were located. To facilitate representation of the academic potential implied by Botswana's system of streaming at SSS level, data was

collected from a simple random sample of 4 streams per Form, for a total of about 106 students per Form. At the CJSS level, one class in each Form was selected randomly in each sampled school for a total of 319 students.

Finally, all students in the selected streams were then asked to complete the questionnaires.

In the final analysis therefore, the sample for study incorporated a total of 531 respondents (212 SSS students, or 40% of the sample, and 319 CJSS students, or 60% of the sample).

### **3.4 Survey Instruments**

#### **3.4.1 Individual Questionnaire**

Data was collected using self-administered questionnaire that contained closed as well as open-ended responses. In order to address the issues raised above, questions were asked on the individual, family and household background as well as community level variables. In order to capture the cognitive developmental stages of adolescents' lives, retrospective data on their family and household background was collected. This is essential since there is very great likelihood that factors that may influence behavior in childhood may be sustained into adolescence and even adulthood stages.

There was an ongoing Census enumeration during the month of August. The Researcher utilized the services of 2 Census Enumerators at the end of this national undertaking. The

Enumerators employed for the Census exercise included mostly Form V school leavers. This option greatly minimized the time and costs of training.

### **3.4.2 Focus Group Discussions**

#### Guidelines on how FGDs were conducted

##### *General overview.*

FGDs were planned for this study in order to obtain in-depth information that may not be explored from self-administered questionnaires. The selection of participants was based on a population of students attending secondary schools in Selibe-Phikwe. The composition of the population differed according to age, level of education (either CJSS or SSS attendance), friendship patterns/ties, family background, household socio-economic background, religious affiliation and sexuality. Since the participants were targeted at institutional level (schools), it was particularly important to assess the overriding circumstances and motivations for participation in FGDs among the students. Hence the following salient features needed critical consideration in the organization of FGDs. Such organization involved the selection of discussants, the motivations for students to participate, ethical considerations, selection of topics as well as the timing and selection of place(s) for conducting such discussions:

### *1. Selection of discussants*

As a preliminary to actual FGDs, it was important to know who participated. The selection was done randomly using the student numbers that were distributed to each student during the questionnaire administration. It was clearly explained that participation was voluntary and under no circumstances were they coerced or threatened to participate. The aims and objectives of the FGD's were clearly explained to potential participants. These included the following:

a) *Broad objective.*

The main goal of the FGDs was to investigate the extent of HIV/AIDS awareness among students, patterns of their sexual behavior and the role of their adult family members, (particularly their adult family members), in facilitating the sharing of information on HIV/AIDS, as well as the promotion of safe sexual practices.

b) *Specific objectives* included interalia;

- i) Discussion of the level of awareness related to HIV/AIDS and the sources of information on reproductive health in general.
- ii) Whether sexuality issues were covered in the school curricula and the extent of coverage of such sexuality issues.

- iii) Whether discussions about HIV/AIDS with adult family members existed, and if so, the content and context of such discussions.
- iv) The motivations for engaging in sex, inter-partner discussions about sex and use of condoms as well as the circumstances surrounding non-use of condoms in sexual encounters.

Other topics perceived to be sensitive were included during the flow of the discussions. Since issues related to HIV/AIDS have become “common” in everyday conversations (as a result of intensive mass media campaigns), the issues planned for discussions were of interest to students. Thus, they were motivated to “freely” engage in the discussions within an atmosphere of peer group interaction. To control for possible dominance and marginalisation of some participants on the basis of gender, separate FGDs were arranged specifically for males and females. After permission was granted to conduct the FGDs in suitably selected places, a fixed date and time was announced to those who wanted to participate. The participants were refunded the transport fares to and from the specified venues. The fixed date for discussions took into account the school timetable and the students were allowed to bring their chosen school friends or peers. This strategy has been found to ease discussions, especially those pertaining to sensitive issues (Michell 1999). Clare Farquhar & Rita Das (2001) also note from other studies that “Focus group research has shown that people may be more, rather than less, likely to self-disclose or share personal experiences in a group rather than dyadic settings”.

## *2) Selection of places for discussions (Research Settings)*

The community recreation centers were selected for conducting FGDs. These places are more familiar and easily accessible to participants, located outside their regular institutions and secluded from occasional disturbances from the general public, teachers and other curious on-lookers. As other studies that have applied FGDs on sensitive issues have revealed, “focus group participants sometimes identify the focus group as a special occasion and take the opportunity to discuss issues that are unconsciously censored or simply awkward to raise in more routine settings” (Kitzinger & Farquhar, pp165). Hence the choice of a secluded area gave the students an opportunity to make revelations and exchange new and sensitive information about their own personal experiences and that of their peers.

## *3) Ethical considerations*

Participants were assured of strict confidentiality and anonymity, as reflected in the identification of the research settings. Informed consent was sort prior to commencing discussions. For purposes of identification of participants in the discussions, they furnished only the initials of their forenames or used “pseudo-names”. No requirement for their physical addresses or contact telephones was made. This was meant to provide re-assurance to the participants that there will be no contact tracing by the researcher after the discussions were over. Although they were disturbed by the fear that what they may reveal in the discussions was going to be diffused to others at school, the researcher dispelled such fears and participants were encouraged to be active on an equal footing.

#### *4) Conducting the discussions*

The researcher was responsible for facilitating the discussions. “Warm-up” activities and establishing “ground rules” for the setting preceded the discussions of sensitive topics. The strategy employed began with general and less personal topics and proceeded to more sensitive issues when the discussions became heated. Topics or exercises that stimulated interest among students at that age were used. A Note-Taker, who was temporarily employed and relatively unknown to the participants, recorded the discussions.

#### *The role/skills of the Facilitator*

**As has been noted in other studies that have utilized FGDs, the primary responsibility of the Facilitator/Researcher is to promote as much group interaction as possible. However, this responsibility was not as easy as it might be theorized. In the conduct of the FGDs, I used the following guidelines as stated by Kitzinger & Barbour (1999):**

1. The researchers should avoid being judgemental, presenting themselves as experts or making assumptions that close off exploration.
2. The group facilitator needs skills in balancing between keeping quiet with knowing when to intervene.

3. The facilitator need to be able to think on their feet to clarify ambiguous statements, enable incomplete sentences to be finished, encourage everyone to participate and ensure that interesting and unexpected avenues are pursued.
4. Prior knowledge (or the ability to pick on, or interpret) the language, terminology, gestures and cultural meanings of the particular groups with whom one is working is very crucial
5. Promoting group interaction in a more “freer” environment does not mean to let loose the group to degenerate into hot unpleasant confrontations or open hostility. The facilitator needs to be wary of such moments and his intervention may be greatly needed to diffuse such tensions.

**The following topics and issues were covered in the focus group sessions:**

***A. HIV/AIDS awareness***

- Sources of information (Parents, Uncles, Grandparents, etc, as sources of information)
- Students’ assessment of their reliability
- Their most preferred sources
- Reasons why these preferred sources could be effective in addressing awareness of HIV/AIDS and their sexuality problems
- Opinions on mass media campaigns



***B. Sexual Practices***

- Age at first sex, condom use, types and numbers of partners
- students' self-perceived vulnerability to HIV/AIDS infection
- motivations for engaging in sex
- obstacles for practicing safe sex, such as abstinence, being faithful to one partner and condom use
- inter-partner communication on condom use
- role models

***C. Sex Education at Schools***

- agree/disagree
- relationship between school and parents involvement (who should be responsible)
- whether it will promote early sexual activity or safe sexual practices among students
- At what grade or age they think it will be most appropriate

***D. Communication with parents on sexuality issues***

- what is the form, content and context of such communication
- what should be the form, content and context of such communication
- how parents should be involved in HIV/AIDS prevention activities

### *Frequency of FGDs*

Given the limited time period before students became busy with their examinations and the very low turn-up in one FGD, only two FGDs were conducted. These included separate same sex groups from mixed school categories. A male only FGD consisted of 8 participants and a Female only FGD consisted of 11 members.

### **3.4.3 Questionnaire for schools**

A questionnaire was used to obtain in-depth information from key informants (Headmasters/Senior teachers) at schools (see Appendix). Most of the questions were open ended and the issues covered included;

- pregnancy-related school drop-outs.
- whether family life education was taught at schools, its content and quality with regard to SRH issues.
- The role of the school in promoting HIV/AIDS awareness and other prevention measures, and assessed parental involvement in the schools' HIV/AIDS prevention programmes

### **3.5 Ethical considerations**

A research permit to undertake the study was granted by the Office of the President in Botswana (see Appendix). In Norway, the Ethical Committee at Bergen granted ethical clearance for the conduct of the study. The permit was granted after an initial rejection (by the Committee) of some of the variables that were included in the earlier questionnaire. According to the Committee's view, some of the questions were considered "sensitive".

#### **3.5.1 Informed consent**

The aims and objectives of the study were explained to the respondents so that they understand and fully acknowledge that their participation is voluntary and under no circumstances will they be forced or threatened to participate. They were also informed that they could willingly withdraw their participation at any time that they may see it fit.

Confidentiality and anonymity were maintained by ensuring that respondent's identity was not endorsed in the questionnaires. Furthermore, respondents were informed that information obtained would be treated as group data, thus dispelling any fear of individual tracing.

## Chapter 4

### 4.0 Analytical Framework

The study will utilize the statistical software package SPSS version 11 to obtain: a) descriptive statistics, and b) cross tabulations and c) logistic regressions of the antecedents of HIV/AIDS awareness and Condom use at first sexual encounter. These results will be interpreted in combination with the information obtained qualitatively.

### 4.1 The Logistic Regression Models

The dependent variables a) Awareness of HIV/AIDS and b) Condom use at first sexual encounter are dichotomous. To address these research questions we therefore use the SPSS LOGISTIC regression procedure to estimate two binary models of the individual, family background, household, and community level antecedents of: 1) Awareness of HIV/AIDS and 2) Condom use at first sexual encounter among secondary school students in Botswana.

#### 4.1.1 The Functional Form of the Logistic Regression Model:

The functional form of the logistic regression model to be estimated is:

$$\ln \left[ \frac{P_i}{1 - P_i} \right] = \sum_i^n b_i x_i$$

where:

$\ln[P_i/(1-P_i)]$  = the log of the odds (or logit) of an individual being in category  $i$  of the dependent variable

$i = 1$  represents the categories a) Awareness of HIV/AIDS and b) Used condom at first sexual encounter, respectively, of the dependent variable

$P_i$  represents the probability of a) being aware of HIV/AIDS and b) having used a condom at first sexual intercourse, respectively

$1-P_i$  represents the probability of being in the reference categories (not aware of HIV/AIDS and not having used condom at first sexual intercourse, respectively) of the dependent variable

$x_i$  is a vector of selected independent variables

$b_i$  is a vector of estimated parameters representing the change in the logits of:  
a) Awareness of HIV/AIDS and b) Used condom at first sexual intercourse, respectively, for a unit change in  $x_i$

Exponentiating both sides of the logistic regression model gives:

$$\frac{P_i}{1 - P_i} = e^{(a + b_i x_i)}$$

or parameter estimates of the odds of a) Awareness of HIV/AIDS and b) Used condom at first sexual intercourse, respectively.

The latter transformation allows us to present our results in terms of the more easily interpretable notion of odds. The use of this method is even more justified by evidence from other studies which point out that a desirable aspect of logistic regression analysis is that the coefficients could be easily changed to odds ratios through exponentiation, which makes them more easier to interpret (Hosmer & Lemeshow 1989).

#### **4.1.2 Description of Variables**

The variables used in the logistic regression analysis are operationalized as presented in Table 1. The first panel indicates the variable labels used and the codes utilized for each variable. The reference categories for each variable are the categories with the highest code.

**Table 1**  
**Variables Used in the Analyses**

<b>Dependent Variable</b>	<b>Variable Description</b>
A. Haware: 1=Yes, 0=No  B: Q615: 1= Yes, 2 = No	A. HIV/AIDS awareness - knowledge of all the conventionally accepted ways of preventing HIV transmission (staying with one faithful partner, using condoms during sex, ensuring that injections are done with sterile needles and abstaining from sex), as well as the following ways by which HIV <i>cannot</i> be transmitted/prevented (good diet, public toilets, touching a person who has AIDS, mosquito bites, eating from the same plate with someone who has AIDS). B. Used condom at first sex
<b>Independent Variables</b>	
<i>Individual Level variables</i>	
Q101: 1=Male, 2=Female	Sex of the respondent
Q100: continuous variable	Current Age of the respondent
<b>Household Level Variables</b>	
Cheded: 1=Primary, 2=Secondary and higher 3=None	Educational attainment of current household head
Chrel: 1=None, 2=Other, 3=Traditional	Religion of current household head
SESadol: continuous variable	Socioeconomic status during adolescence- the average of Socio-economic status at age 11 and currently. SESadol was obtained by summing the scores on a ranked list of the following: tenureship of dwelling, material of construction of roof, wall and floor, main source of water for cooking, main source of fuel for cooking, type of toilet and household ownership of TV and or Car.
<b>Family Level Variables</b>	
hhat11: 1=mother 2=father, 3=grandparent(s), 4=others 5=both parents	Family of orientation at age 11
Q3051: 1= parent(s), 2=grandparent(s), 3=Other relative 4=None	Communication with non-resident family member at age 11
Crafm11: 1=parent(s), 2=grandparent(s), 3=none	Communication with resident family member at age 11
Q3044: 1=Yes, 2=No	Punishment by resident family member at age 11
<b>Community Level Variables</b>	
Q410: 1=Yes, 2=No	Local leadership involvement in HIV/AIDS awareness

	campaigns
Q408: 1=Yes, 2=No	Exposure to HIV/AIDS Awareness campaign
Q302: 1=Agree, 2=Disagree	Elders communicate on reproductive health issues?
Q303: 1=Agree, 2=Disagree	Elders have multiple sexual partners/extra-marital partners
Q301: 1=Agree, 2=Disagree	Beer drinking a popular activity in the community
Res11: 1=rural, 2=urban	Place of residence at age 11
<b>Peers Influences</b>	
Q401: 1=Yes, 2=No	Participation in extra-mural activities
Q403: 1=Yes, 2=No	Discussion of reproductive health issues with school friends
Q405: 1=Yes, 2=No	Contact/involvement with Peer Approach to Counselling for Teenagers (PACT)

#### 4.2 Characteristics of the sample

Table 2 offers a snapshot of the salient features of the sample population. Only descriptive statistics are presented here. The results of bivariate and logistic regression analyses are presented in later chapters.

**Table 2**  
**Salient Characteristics of the Sample**

<b>Characteristic</b>	<b>Summary measures (% , mean, etc)</b>
<b>Dependent Variables</b>	
Awareness of HIV/AIDS	31.6% aware
Condom Use at First Sexual Encounter	56.2% used condom
<b>Independent Variables</b>	
<i>Individual Level variables</i>	
Sex	Female = 52.2 %
Current Age	Mean age = 16.34 years, SD = 1.64 years
<b>Household Level Variables</b>	
Educational attainment of current household head	30.3% Primary, 60.8% Secondary and higher, 8.9% None
Religion of current household head	29.9% None, 56.5% Other, 13.6% Traditional
Socioeconomic status at adolescence	Mean Score = 19.38, Min = 12, Max = 25, SD = 2.42
<b>Family Level Variables</b>	
Family of orientation at age 11	Mother=28.1%, Father=8.7%, Grandparents=4.9%, Others=4.7%, Both parents= 48.6%,
Communication with non-resident family member at age 11	Parent(s) = 7.7 %, Grandparent(s) = 8.5 %, Other =14.3% None=69.5%
Punishment by non-resident family member at age 11	%Yes = 5.6



Communication with resident family member at age 11	Parent(s) = 35.2 %, Grandparent(s) = 8.3 %, None = 56.5%
Punishment by resident family member at age 11	%Yes = 8.7
<b>Community Level Variables</b>	
Local leadership involvement in HIV/AIDS awareness campaigns	% Yes = 22.6
Exposure to HIV/AIDS Awareness campaign	% Yes = 37.1
Elders communicate on reproductive health issues?	% Agree = 67.6
Elders have multiple sexual partners/extra-marital partners?	Agree = 44.8%
Beer drinking a popular activity in the community	% Agree = 65.7
Place of residence at age 11	Town = 74.8 %, Village = 17.5%, Other = 7.8%
<b>Peers Influences</b>	
Participation in extra-mural activities	% Yes = 27.3
Discussion of reproductive health issues with school friends	% Yes = 66.7
Contact/involvement with PACT	% Yes = 10.7

As expected, the sample consisted of a relatively higher proportion of females (52.2%) currently attending secondary schools. 60.3% of the students were attending CJSS and 39.7% attended SSS. It is worth noting that over the years and as a result of government's revised policy on education, there has been significant increase in enrolment at both primary and secondary school levels by students of both ages. For instance, the 1993 National Literacy Survey found that only 4.7% of males and 2.2% of females aged between 12-19 had never been to school. The overall transition rate from primary to CJSS schools was 97.5% in 2000 (MoE, 2000). The national enrolment statistics also show that overall, females outnumber

males at all levels. The mean age for the sample is 16 years and many of the students' ages are clustered around this value.

The study utilized retrospective information to assess family background variables. Hence age 11 approximate "immediate pre-pubertal" period and the current age reflects adolescence. The results show that almost half (48.6%) of the respondents were living with both parents when they were aged 11. As has been noted, the presence of both parents provide the necessary supervisory role and it is expected that adolescents living with both parents will either delay onset of sexual activities or use condoms during their first sexual encounter. About 28% of the respondents lived with their mothers (without father). This result explains the predominance of female-headed households, which are more common in urban areas. A smaller proportion (8.9%) lived with their fathers only and the rest lived in other arrangements involving grandparents, guardians, siblings and non-related household units. As has been postulated in the literature elsewhere, these living arrangements have implications on adolescent sexual behavior.

Educational attainment of current resident household head of the respondents is considerably higher and the findings are consistent with previous studies (see MoE, 2000). Accordingly, slightly less than two thirds (60.8%) of the household head had attained secondary and higher levels of education. About a third (30.3%) had attained primary level and only a small proportion (about 9 %) had never been to school. Assuming that there is strong positive correlation between educational attainment of household head and communication on

sexuality with offspring, this association can have positive impact on the promotion of safe sexual practices among adolescents.

The role of parents in providing information on SRH to their children has been noted as a source of concern (MoE 2000). Table 2 shows that less than half (44%) of all respondents reported communication on SRH issues with an adult resident family member when they were aged 11 years. Mothers communicate on SRH more frequently with their daughters than do fathers (irrespective of sex of the child). As a result of the very small number of cases of communication with fathers, a compressed category (ie, Parent(s)) was created. Slightly more than a third (35.2%) of the respondents had communicated with their Parent(s), and about 8 percent had communicated with either Grandparent(s) or Other resident relatives. On the other hand, a much smaller proportion (30.5%) of the sample population reported communication on SRH with non-resident family members. About a quarter of the respondents identified either Grandparent(s) or Other non-resident family members as sources of SRH discussions. A very small proportion (about 9%) of the respondents also reported punishment for sexually related behavior by a resident adult family member. This proportion is even smaller (about 6%) for non-resident adult family members.

Community level influence on HIV/AIDS awareness and adolescent sexual behavior has been discussed in the literature (see section 2.2.3 pp12). The dominance and intensity of mass media campaigns in educating the public about HIV/AIDS has been highlighted. It is expected that exposure to multi media channels would have increased the level of awareness of HIV/AIDS. However, Table 3 shows that slightly less than a third (31.6%) of research

participants were aware of HIV/AIDS. And only less than two fifth (37.1%) reported exposure to HIV/AIDS awareness campaigns. Less than a quarter (22.6%) of the respondents agreed that there is local leadership involvement in HIV/AIDS awareness campaigns. A greater proportion of two thirds (67.6%) of the students agreed that elders communicate on SRH in their communities. However, the sample does not delineate this communication by type and with whom it occurred. 44.8 percent of the respondents agreed that elders have multiple sexual partners. The level of alcohol consumption is considerably high in the community. Close to two thirds (65.7%) of the students agreed that beer drinking is a popular activity in their community.

Peer interaction at schools offers opportunities for information sharing and the initiation of normative habits that can either have negative or positive implications for their sexual and reproductive health. Table 2 shows that two thirds (66.7%) of the respondents have discussed SRH issues with their friends. Although PACT strategy in schools has been strongly recommended by previous studies, the provision of appropriate SRH information and counseling by trained PACT Volunteers remains very limited and non-existent in some schools. The results show that a very small proportion (10.7%) of the respondents had PACT contacts or were actively involved in PACT activities.

## Chapter 5

### 5.0 Bivariate Results

This chapter presents the results of bivariate analysis of the relationship between, on the one hand: a) HIV/AIDS Awareness, b) Condom Use at First Sexual Intercourse, and Family Background, on the other. These results are however, only preliminary, as they do not partial out the effects of other potentially confounding variables (see chapter 6).

### 5.1 HIV/AIDS Awareness

#### 5.1.1 Awareness of HIV/AIDS by Family of Orientation.

**Table 3.**

Percentage Distribution of Aware of HIV/AIDS by Family of Orientation at Age 11

Family of Orientation	HIV/AIDS Aware		Total
	No	Yes	
<b>Mother</b>	108	41	149
	72.5 %	27.5 %	100.0 %
<b>Father</b>	28	18	46
	60.9 %	39.1 %	100.0 %
<b>Grandparents</b>	41	12	53
	77.4 %	22.6 %	100.0 %
<b>Other</b>	15	10	25
	60.0 %	40.0 %	100.0 %
<b>Both Parents</b>	171	87	258
	66.3 %	33.7 %	100.0 %

<b>Total</b>	363	168	531
	68.4 %	31.6 %	100.0 %

$\chi^2 = 5.673, df=4, ns$

Table 3 cross-tabulates HIV/AIDS Awareness by Family of Orientation at age 11. We had hypothesized that being raised by both parents increases the likelihood of HIV/AIDS awareness. The results however, do not appear to support that thesis. Besides being non-significant, the direction of effects are not as expected: Both the percentage distributions for students who reported awareness of HIV/AIDS and were also from families of orientation headed by a) the father (39.1%) or b) other adult relatives (40%) were greater than the distribution for students who reported awareness of HIV/AIDS and whose family of orientation included both parents (33.7%). The foregoing notwithstanding, a conclusive statement on the effects of Family of Orientation will need to be based upon the multiple regression results presented in the following chapter.

#### 5.1.2 Awareness of HIV/AIDS by Communication on Sexuality with a Resident Adult Family Member at Age 11

**Table 4.**

Percentage Distribution of Aware of HIV/AIDS by Communication on Sexuality with a Resident Adult Family Member, at Age 11

<b>Communication with Resident Adult Family Member at age 11</b>	<b>HIV/AIDS Aware</b>		<b>Total</b>
	<b>No</b>	<b>Yes</b>	
<b>Parent(s)</b>	108	79	187
	57.8%	42.2%	100.0 %

<b>Grandparent(s)</b>	34	10	44
	77.3%	22.7%	100.0%
<b>None</b>	221	79	300
	73.7%	26.3%	100.0%
<b>Total</b>	363	168	531
	68.4%	31.6%	100.0%

$$\chi^2 = 15.799, df=2, p<0,01$$

The results presented in Table 4 present some support for our hypothesis that Communication with a Resident Adult Family Member at age 11 is directly related to the level of awareness of HIV/AIDS. A greater proportion (42.2%) of respondents who had communicated with either, mother alone, father alone, or both parents were aware of HIV/AIDS, compared to only 26.3% of the respondents where communication on sexuality with an adult resident family member did not exist. On the other hand, the corresponding proportion for students who had communicated with a grandparent(s) (22.7%) is lower than the proportion that had had no communication at all. With a  $\chi^2$  value of 15.799 and  $p<0.01$ , the results are moderately significant.

### 5.1.3 Awareness of HIV/AIDS by Communication on Sexuality with a Non-

#### Resident Adult Family Member at Age 11

Table 5 cross-tabulates Awareness of HIV/AIDS by Communication on Sexuality with a Non-resident Adult Family Member, at age 11. While not statistically significant, one aspect of the distribution is interesting. The highest percentage (40.0%) among the sub-groups who were aware of HIV/AIDS is for respondents who had communicated with their non-resident

grandparent(s). Nevertheless, interpretation of these results must await the more comprehensive analysis carried out in chapter 6.



**Table 5.**

Percentage Distribution of Aware of HIV/AIDS by  
Communication with Non-Resident Adult Family Member, at Age 11

Communication with Non-Resident Adult Family Member, at Age 11	HIV/AIDS Aware		Total
	No	Yes	
Parent(s)	29	12	41
	70.7%	29.3%	100.0%
Grandparent(s)	27	18	45
	60.0%	40.0%	100.0%
Other Relatives	53	23	76
	69.7%	30.3%	100.0%
None	254	115	369
	68.8%	31.2%	100.0%
<b>Total</b>	<b>363</b>	<b>168</b>	<b>531</b>
	68.4%	31.6%	100.0%

$$\chi^2 = 1.67 \quad df=3 \quad p=0.645 \quad ns$$

5.1.4 Awareness of HIV/AIDS by Punishment for Sexually Related Behavior by  
Resident Adult Family Member, at Age 11

**Table 6**

Percentage Distribution of HIV/AIDS Awareness by Punishment for Sexually Related Behavior by Resident Adult Family Member, at Age 11

Punishment for Sexually Related Behavior by Resident Adult Family Member, at Age 11	HIV/AIDS Aware		Total
	No	Yes	
Yes	34	12	46
	73.9%	26.1%	100.0%
<b>No</b>	<b>329</b>	<b>156</b>	<b>485</b>

	67.8%	32.2%	100.0%
<b>Total</b>	363	168	531
	68.4%	31.6%	100.0%

$\chi^2 = .718$  df=1 ns

We had earlier postulated that Punishment for Sexually Related Behavior at age 11, by a Resident Adult Family Member is negatively related to adolescents' Awareness of HIV/AIDS. Table 6 shows the percentage distribution of HIV/AIDS awareness by punishment for sexually related behavior by resident adult family member, at age 11. Although the results are not statistically significant, the direction of effects are as expected. The percentage of students who were aware of HIV/AIDS and reported punishment by a resident adult family member at age 11 (26.1%), was less than the percentage distribution of students who were aware of HIV/AIDS and reported no punishment by a resident adult family member (32.2%).

## 5.2 Condom Use at First Sexual Intercourse

### 5.2.1 Condom Use at First Sexual Intercourse by Family of Orientation at Age 11

**Table 7**

Percentage Distribution of Condom Use at First Sexual Intercourse by Family of Orientation at Age 11

Family of Orientation at Age 11	Used Condom at First Sexual Intercourse		Total
	Yes	No	
<b>Mother</b>	39	37	76
	51.3%	48.7%	100.0%
<b>Father</b>	8	10	18
	44.4%	55.6%	100.0%
<b>Grandparent(s)</b>	15	7	22
	68.2%	31.8%	100.0%
<b>Other</b>	5	4	9
	55.6%	44.4%	100.0%
<b>Both parents</b>	65	45	110
	59.1%	40.9%	100.0%

<b>Total</b>	132	103	235
	56.2%	43.8%	100.0%

$$\chi^2 = 3.405, df=4, ns$$

Table 7 cross-tabulates Condom Use at First Sexual Intercourse by Family of Orientation at age 11. While we had hypothesized that a Family of Orientation that includes both parents is most likely to increase the likelihood of condom use at first sexual intercourse by adolescents, the results are in fact, not statistically significant. Furthermore, the percentage of students who reported condom use at first sex and were also from families of orientation headed by grandparent(s) (68.2%), was greater than the distribution for students who reported condom use and whose family of orientation included both parents (59.1%).

#### 5.2.2 Condom Use at First Sexual Intercourse by Communication with Resident Adult Family Member, at Age 11

**Table 8.**

Percentage Distribution of Condom Use at First Sexual Intercourse by Communication with Resident Adult Family Member, at Age 11

<b>Communication with Resident Adult Family Member, at Age 11</b>	<b>Used Condom at First Sexual Intercourse</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Parent(s)</b>	64	27	91
	70.3%	29.7%	100.0%
<b>Grandparent(s)</b>	16	3	19
	84.2%	15.8%	100.0%
<b>None</b>	52	73	125
	41.6%	58.4%	100.0%
<b>Total</b>	132	103	235
	56.2%	43.8%	100.0%

$$\chi^2 = 24,257, df=2, p<0,01$$

We had hypothesized that Communication on Sexuality at age 11, with a Resident Family Member, is directly related to the likelihood of condom use at first sexual intercourse. The results shown in Table 8 appear to support this thesis. The percentage distributions for students who reported condom use at first sexual intercourse and had communicated with either their parent(s) (70.3%) or their grandparent(s) (84.2%), is greater than the distribution for students who reported condom use at first sexual intercourse and no communication (41.6%). With a  $\chi^2$  value of 24.257, the results are highly significant at  $p < 0.01$ .

### 5.2.3 Condom Use at First Sexual Intercourse by Communication with Non-Resident

#### Adult Family Member at Age 11

Table 9 cross-tabulates condom use at first sexual encounter by Communication with a Non-resident Adult Family Member at age 11. The results appear to support our hypothesis that communication with a non-resident adult family member at age 11, is directly related to condom use at first sexual intercourse. The distribution shows a higher percentage for respondents who had used a condom at first sexual intercourse and had communicated with either their grandparent(s) (70.8%) parent(s) (70.4%) other relatives (69.4%) than for respondents who had used a condom at first sexual intercourse but reported no communication (48.0%). With a  $\chi^2$  value of 10.923, the results are statistically significant at  $p < 0.05$ .

**Table 9**

**Percentage Distribution of Condom Use at First Sexual Intercourse by Communication with Non-Resident Adult Family Member at Age 11**

Communication with Non-Resident Adult Family Member at Age 11	Used Condom at First Sexual Intercourse		Total
	Yes	No	
<b>Parent(s)</b>	19	8	27
	70.4%	29.6%	100.0 %
<b>Grandparent(s)</b>	17	7	24
	70.8%	29.2%	100.0 %
<b>Other Relatives</b>	25	11	36
	69.4%	30.6%	100.0 %
<b>None</b>	71	77	148
	48.0%	52.0%	100.0 %
<b>Total</b>	132	103	235
	56.2%	43.8%	100.0 %

$\chi^2 = 10.923, df=3, p<0.05$

5.2.4 Condom Use at First Sexual Intercourse by Punishment for Sexually-related Behavior by a Resident Adult Family Member at Age 11

We had hypothesized that Punishment for Sexually-related Behavior by a Resident Adult Family Member at age 11, is negatively related to the likelihood of condom use at first sexual intercourse. Neither the results are statistically significant, nor are the direction of effects as expected. The percentage of respondents who used condom at first sexual intercourse and reported punishment at age 11 (59.0%), is greater than the percentage distribution of those

respondents who used condoms at first sexual intercourse and reported no punishment (55.6%) for sexually related behavior.

**Table 10**

**Percentage Distribution of Condom Use at First Sexual Intercourse by Punishment for Sexually Related Behavior by Resident Adult Family Member at Age 11**

<b>Punishment for Sexually Related Behavior by Resident Adult Family Member at Age 11</b>	<b>Used Condom at First Sexual Intercourse</b>		<b>Total</b>
	<b>Yes</b>	<b>No</b>	
<b>Yes</b>	23	16	39
	59.0%	41.0%	100.0%
<b>No</b>	109	87	196
	55.6%	44.4%	100.0%
<b>Total</b>	132	103	235
	56.2%	43.8%	100.0%

$\chi^2 = .149$ ,  $df=1$ , ns

## **Chapter 6**

### **6.0 Logistic Regression Results**

The chapter presents the results of logistic regression analysis of the antecedents of a) HIV/AIDS awareness among adolescents (Table 11) and b) condom use at first sexual intercourse by adolescents (Table 12). The logistic regression models for family background factors, peer influences, community factors, and the complete model, are shown in panels 1, 2, 3, and 4 respectively, of each of Tables 11 and 12. While not totally consistent with all our expectations, the results do provide support for our major hypotheses.

### **6.1 HIV/AIDS Awareness**

#### **6.1.1 Family background factors and HIV/ AIDS awareness**



### ***Family of Orientation at age 11***

Contrary to our expectation adolescents whose family of orientation at age 11 included Both Parents were not more likely than other adolescents to be aware of HIV/AIDS. Instead, only the coefficient for families of orientation that included Other adults (adults other than mother alone, or father alone, or grandparent(s)), is statistically significant. In addition, compared to living in a family of orientation that included Both Parents, living in a family of orientation of Other adults increased the likelihood of an adolescent's awareness of HIV/AIDS by 160%. In the final analysis, this result is not inconsistent with some of our discussion in section 2.2.1. Adolescents who live in family units headed by either an adult brother, or sister or close cousin, may be more "free" to discuss sexuality issues with this Other adults.

### ***Communication with resident adult Family member at age 11***

As expected, the results in Model 1 (Table 11) suggest that Communication with a Resident Adult Family Member on sexuality issues is positively related to HIV/AIDS awareness. Compared to non-communication with a resident adult family member, communication with Parents increased the likelihood of an adolescent's awareness of HIV/AIDS by about 97%. This result is statistically significant at the 0.05 level. On the other hand, the coefficient for communication with a grandparent(s) is not statistically significant.

### ***Communication with Non-resident adult Family member at age 11***

Contrary to expectation, none of the estimated coefficients are statistically significant.

***Punishment by Resident Adult Family Member, for sexually-related behavior, at age 11***

As expected, Punishment by a Resident Adult Family Member for sexuality related behavior decreased the likelihood of HIV/AIDS awareness among adolescents. Compared to adolescents who reported no punishment for sexually related behavior, adolescents who were punished were about 55% less likely to be aware of HIV/AIDS. The coefficient for punishment is statistically significant at 0.05.

*Control Variables*

***Current Age of Respondent***

Many studies have documented evidence that age is directly related to the likelihood of an adolescent's awareness of HIV/AIDS (see MoE 2000). Consistent with these findings, our result indicates that a unit increase in the age of an adolescent increased the likelihood of being aware of HIV/AIDS by a factor of about 1.2. The coefficient for age is highly significant at 0.01.

**Sex**

The results are not consistent with our expectation.

### *Education of household head*

Contrary to our expectations, the results suggest that household head's education does not significantly increase the likelihood of awareness of HIV/AIDS among adolescents. On the other hand, this result could be explained by the fact that there was little variation observed in the educational levels of household heads in our sample.

### *Religion of household head*

The results for religion are consistent with our expectation. The religious affiliation of household head appears to reduce the odds of being aware of HIV/AIDS among adolescents significantly. While coefficient for Other religions is not significant, compared to having a household head whose religion was Traditional, adolescents who lived with household head with no religion were about 87% more likely to be aware of HIV/AIDS. The coefficient for household head with no religion is significant at 0.10.

### *Household Socio-economic status*

The results show that a unit increment in the Household's Socio-Economic Status increased the odds of an adolescent's awareness of HIV/AIDS by approximately 1.3, holding all other factors constant. This coefficient is highly significant.

## **6.1.2 Peer Influences on HIV/AIDS awareness**

### *Participation in Extra-mural activities*

Contrary to our expectations, Participation in Extra-mural Activities had a negative effect on adolescents' awareness of HIV/AIDS. Compared to those who did not participate in extra-mural activities, the likelihood of being aware of HIV/AIDS reduced by about 34% among adolescents who reported participation in extra-mural activities. This coefficient is statistically significant at 0.10. A plausible reason for this unexpected result could be that such activities do not promote HIV/AIDS awareness issues, leaving many participants to make ill-informed speculations about issues related to HIV/AIDS.

### *Discussion with Friends on SRH issues*

As expected, this predictor variable had a direct effect on the likelihood of an adolescent's awareness of HIV/AIDS. Compared to adolescents who had no discussions with their friends on sexuality issues, the odds of being aware of HIV/AIDS increased by about 1.65 times among those adolescents who reported discussions with friends on SRH issues. The coefficient was significant at 0.05.

### **PACT Contact/involvement**

As expected, PACT Contact/involvement increased the likelihood that adolescents were aware of HIV/AIDS. Compared to respondents with no PACT contact/involvement,

adolescents who reported PACT contact/involvement were about 115% more likely to be aware of HIV/AIDS. The coefficient for those adolescents who agreed that they had PACT contact/involvement was moderately significant.

### *Control Variables*

The results for the control variables are fairly similar to the results obtained in the Family Background model (section 6.1.1).

### **6.1.3 Community factors**

#### **Involvement of Local leadership in HIV/AIDS awareness activities**

As expected, Model 3 shows that respondents who agreed that there is Local Leadership Involvement in HIV/AIDS awareness Activities were about 1.55 times more likely to be aware of HIV/AIDS than those who did not. The coefficient for this predictor variable is statistically significant at 0.05.

#### **Exposure to HIV/AIDS Campaigns**

As expected, Exposure to HIV/AIDS Awareness Campaigns appears to be directly related to the likelihood of HIV/AIDS awareness among adolescents. Compared to adolescents who were not exposed to HIV/AIDS awareness Campaigns, the likelihood of being aware of HIV/AIDS among adolescents who reported exposure to HIV/AIDS awareness Campaigns was about 54% greater, holding other factors constant. This coefficient is significant at 0.05.

*Elders Communicate on SRH issues, Elders have multiple sexual partners, Beer Drinking  
Popular, Place of Residence*

Contrary to expectation, none of the estimated coefficients for these variables were statistically significant.

#### **6.1.4 The Complete model**

In the complete model, all family background factors, peer influences, community and control variables are entered. Apart from slight changes in the magnitude of effects, the results obtained in the combined model are similar to the results obtained in the separate models. However, there are two exceptions to this conclusion, namely - Communication with Non-resident Family Member and Involvement of Local Leadership in HIV/AIDS awareness Activities.

In contrast to the separate models, where none of the coefficients for the variable Communication with Non-resident Family Member was significant, the coefficient for Other adult relatives is negative statistically significant at 0.10. In other words, in the complete model, adolescents who reported communication with an “Other” non-resident family member were less likely (43%) to be aware of HIV/AIDS than adolescents who reported no such communication. This result is difficult to explain. On the other hand, it is possible that this may simply be the consequence of collinearity with other variables such as the community level variable – Elders communicate on sexuality issues.

#### **6.1.5 The Relative importance of Family Background factors, Peer Influences, Community level variables, and a Combined Model**

This section evaluates two hypotheses, namely, controlling for individual and household level factors:

- a. family background factors (model 1) are more important in explaining awareness of HIV/AIDS than either peer influences (model 2), or community level variables (model 3)
- b. a model which combines family background factors, peer influences, and community level variables (model 4) is more important in explaining HIV/AIDS awareness than either family background, peer influences, or community level variables

The evaluation is made on the basis of a comparison of i) the model chi-square and ii) the Cox & Snell  $R^2$  values for each model. As in Ordinary Least Squares Regression (OLS) the latter provides a measure of the proportion of the variance in the dependent variable, that is explained by the predictor variables in the logistic regression model: Since the value of the chi-square increases with an increase in the degrees of freedom, it is useful to employ the latter, as an additional measure of comparison. On both of these measures, our two hypotheses are supported.

As the last row in Table 11 shows compared to the chi-squares obtained for models 2 (62.604) and 3 (62.682) the chi-square for model 1 (69.009) is approximately 10% greater. In addition, the Cox & Snell  $R^2$  values for models 2 (.111) and 3 (.111) are slightly smaller than the Cox & Snell  $R^2$  value (.122) for model 1.

Similarly, the chi-square for model 4 (90.708) is much larger than the corresponding values for models 1-3. Furthermore, the Cox & Snell  $R^2$  value for models 4 (.157) is also larger than the Cox & Snell  $R^2$  values of all the former models.



**Table 11**

**Exponentiated Logistic Regression Model of HIV/AIDS Awareness among Adolescents**

Variables	Family Background	Peer Influences	Community Factors	Complete Model
	exp <sup>β</sup>	exp <sup>β</sup>	exp <sup>β</sup>	exp <sup>β</sup>
	(1)	(2)	(3)	(4)
<i>Controls</i>				
<b>Current Age</b>	1.325***	1.232**		
<b>Sex-(Female)<sup>+</sup></b>			1.289***	1.263**
Male	.815	.983		
<b>Education of HH-(None)</b>			.879	.908
Primary	1.215	1.270		
Secondary and higher	1.020	1.020	1.299	1.270
<b>Religion of Household Head-(Traditional)</b>			1.098	1.067
None	1.871*	2.086**		
Other	1.619	1.594	2.068**	1.833*
<b>Household Socioeconomic Status</b>	1.262***		1.605	1.515
		1.264***		
			1.251***	1.236** *
<b>Family of Orientation-(Both parents)</b>				
Mother	.899			.935
Father	1.537			1.807
Grandparents	1.394			1.371
Others	2.603*			

<b>Communication with Resident Adult Family Member</b> (None)	1.969**			3.013**
Parents	.537			
Grandparents				1.686**
<b>Communication with non-Resident Family Member</b> -(None)	.725			.487
Parents	1.207			.599
Grandparents	.594			1.218
Other relatives	.448**			.571*
<b>Punishment by Resident Adult Family Member</b> -(No)				.410**
Yes				
<b>Participation in Extra-mural activities</b> -(No)				
Yes		.659*		.619**
<b>Discussion with Friends</b> -(No)				
Yes		1.652**		
<b>PACT Contact/involvement</b> –(No)				1.631**
Yes		2.150**		1.789*
<b>Involvement of Local Leadership</b> -(No)				
Yes			1.548**	1.478
<b>Exposure to HIV/AIDS Awareness Campaigns</b> -(No)				
Yes			1.537**	1.540**
<b>Elders Communicate on SRH issues</b> -(Disagree)				
Agree			1.085	1.087
<b>Elders have multiple sexual partners</b> -(Disagree)				
Agree			1.010	.919
<b>Beer drinking popular</b> -(Disagree)				
Agree			1.197	1.199
<b>Place of Residence</b> -(Urban)				
Rural			.801	.909
<b>Model Chi-square</b>	69.009***			90.708*
<b>df</b>	17	62.604***	62.682***	**
<b>Cox &amp; Snell R<sup>2</sup></b>	.122	10	13	26
		.111	.111	.157

\*\*\*p<.01, \*\*p<.05, \*p<.10

+ Reference categories in parenthesis

## 6.2 Condom Use at First Sexual Intercourse

### 6.2.1 Family Background factors and Condom Use at first Sexual Intercourse

#### Family of Orientation at age 11

Contrary to expectations, adolescents whose family of orientation at age 11 included Both Parents were less likely to have used condoms at their first sexual intercourse. The results in Model 1 (Table 12) suggest that living in a family of orientation that included Other adults, (adults other than mother alone, or father alone, or grandparent(s)), is statistically significant. Compared to living in a family of orientation that included Both Parents, living in a family of orientation that included Other adults significantly reduced the likelihood of an adolescent's use of condoms at first sexual encounter by about 82%. Only the estimated coefficient for family of orientation that included Other adults is statistically significant at 0.1. Although inconsistent with our expectations, this result equally implies that adolescents living with these Other adults are more "free" or "loose" to engage in risky sexual practices that may include non-use of condoms (see section 2.2.1)

### ***Communication with Resident Adult Family Member at age 11***

As expected, communication with a resident adult family member on SRH issues, is directly related to the likelihood that adolescents will have used condoms at their first sexual encounter. Compared to adolescent who reported no communication with Resident Adult family Member, the likelihood of condom use increased by a factor of 2.3 among adolescents who reported communication with their Parent(s), and also increased by a factor of 10.5 where communication on SRH issues was with Grandparent(s). The

estimated coefficient for either communication with Parents or Grandparents is statistically significant at 0.05.

***Communication with non-Resident Adult Family Member at age 11***

Contrary to our expectations, none of the estimated coefficients are statistically significant.

***Punishment by Resident Adult Family Member, for sexually-related behavior, at age 11***

The results in Model 1 suggest that punishment by resident adult family member, for sexually related behavior, does not significantly reduce the likelihood of condom use at first sex among adolescents. The results are not consistent with our expectations.

Control Variables

***Current age of respondent***

As expected the likelihood of condom use at first sexual encounter among adolescents is directly related to their age. The results indicate that a unit increase in age of an adolescent increased the likelihood of condom use at first sex by a factor of about 1.3, holding all other factors constant. The coefficient for age is moderately significant at 0.05.

### Sex

The results for sex are consistent with our expectations. Compared to females, male adolescents were 48% less likely to have used condoms at first sexual encounter. The estimated coefficient for males is statistically significant at 0.05.

### *Education of household head, Religion of household head, and Household Socio-economic status*

Contrary to expectations, the estimated coefficients for either *Education*, *Religious Affiliation* of household head or *Household Socio-economic status* are not statistically significant.

## **6.2.2 Peer Influences on Condom Use at first sexual intercourse**

### ***Participation in Extra-mural activities***

Contrary to expectations, the results in Model 2 indicate that participation in Extra-mural activities had a negative effect on condom use among adolescents. Compared to adolescents who did not participate in Extra-mural activities, the likelihood of condom use reduced by about 43% among adolescents who reported participation in extra-mural activities. The coefficient for participation in extra-mural activities is significant at 0.1. As has been explained in section 6.1.2 (regarding this predictor variable) it is also the nature and character of these Extra-mural activities that predisposes participants to sex experimentation and coercion. FGD discussions revealed that Athletics competitions, in particular, predominate and these events offer opportunities for students to engage in casual sexual relationships (more often with their peers or even elders in the community) resulting in non-use of condoms.

### ***Discussion with Friends on SRH issues***

Contrary to expectations, this variable is not statistically significant.

### ***PACT Contact/involvement***

As expected, PACT contact/involvement significantly increased the likelihood that adolescents will have used condoms at first sexual encounter. Compared to adolescents with no PACT contact/involvement, the likelihood of condom use at first sexual intercourse increased by about 145% among those adolescents who reported PACT contact/involvement. The coefficient for this predictor variable is statistically significant at 0.10.

### **Control Variables**

The results for the control variables are fairly similar to the results obtained in the Family Background model (section 6.2.1)

### **6.2.3 Community factors**

#### *Involvement of Local leadership in HIV/AIDS awareness activities*

As expected, Involvement of Local Leadership in HIV/AIDS awareness Campaigns significantly increased the likelihood that adolescents will have used condoms at first sexual encounter. Compared to those who reported no Involvement of Local Leadership in HIV/AIDS awareness in their communities, adolescents who agreed that there is Involvement of Local Leadership in HIV/AIDS Awareness Campaigns were 2 times

more likely to have used condoms at first sex. The coefficient for this predictor variable is highly significant at 0.01.

### ***Exposure to HIV/AIDS Awareness Campaigns***

As expected this variable was not a significant predictor of the likelihood of condom use at first sexual intercourse among adolescents.

### ***Elders Communicate on SRH issues***

As expected Communication by elders on SRH issues is negatively related to condom use among adolescents. Compared to adolescents who disagreed that Elders Communicate on SRH issues, the likelihood that an adolescent will have used condoms at first sexual encounter decreased by 53% among those who agreed that Elders Communicate on SRH issues. The estimated coefficient for this variable is significant at 0.05.

### ***Elders have multiple sexual partners***

As expected this predictor variable was negatively related to condom use among adolescents. Compared to adolescents who disagreed that elders have multiple sexual partners, adolescents who agreed that elders have multiple sexual partners were 56% less likely to have used condoms at their first sexual intercourse. The estimated coefficient for this variable is statistically significant at 0.05.



### *Beer Drinking Popular, Place of Residence*

Contrary to expectations, none of the estimated coefficients for these variables were statistically significant.

### *Control Variables*

The results for the control variables are fairly similar to the results obtained in Peer Influences model (section 6.2.2)

#### **6.2.4 The Complete model**

In the Complete model, all family background, peer influences, community and control variables are entered. Compared to Model 1 and 2, the Complete Model shows fairly similar results obtained in those separate models.

The results from Model 4 suggest that community level factors play more significant influence on adolescent SRH decision-making choices, especially with regard to condom use/non-use than do peer influences. Hence, it is possible that there could be implied collinearity between the two Peer Influence variables namely; *Participation in Extramural activities* and *PACT Contact/involvement* with two specific predictor variables at

the Community Level Factors namely; *Elders Communicate on SRH issues* and *Elders have Multiple sexual partners*. The negative influence of the latter predictor variables on the likelihood of condom use among adolescents could offer explanations to the “vicious circle” of HIV/AIDS transmission (whereby adolescent girls get HIV infected by elderly males in the community and then in turn infect their regular adolescent boyfriends) in Botswana.

Model 4 indicates that both the estimated coefficients for these predictor variables (in Model 3) are similarly negative statistically significant at 0.05. On one hand, the results in Model 4 suggest that adolescents who agreed that Elders Communicate on SRH issues were 60% less likely to have used condoms than those who disagreed. On the other hand, compared to adolescents who disagreed that Elders have multiple sexual partners, the likelihood of condom use at first sexual intercourse decreased by about 57% among those who agreed that Elders have multiple sexual partners.

### **6.2.5 The Relative importance of Family Background factors, Peer Influences, Community level variables, and a Combined Model**

This section evaluates two hypotheses, namely, controlling for individual and household level factors:

- c. family background factors (model 1) are more important in explaining condom use among adolescents than either peer influences (model 2), or community level variables (model 3)
- d. a model which combines family background factors, peer influences, and community level variables (model 4) is more important in explaining Condom Use at first sexual encounter among adolescents than either family background, peer influences, or community level variables

The evaluation is made on the basis of a comparison of i) the model chi-square and ii) the Cox & Snell  $R^2$  values for each model. On both of these measures, our two hypotheses are supported. As the last row in Table 12 shows, compared to the chi-squares obtained for models 2 (25.916) and 3 (37.968) the chi-square for model 1 (45.293) is approximately 10% greater. In addition, the Cox & Snell  $R^2$  values for models 2 (.104) and 3 (.149) are slightly smaller than the Cox & Snell  $R^2$  value (.175) for model 1.

Similarly, the chi-square for model 4 (63.253) is much larger than the corresponding values for models 1-3. Furthermore, the Cox & Snell  $R^2$  value for models 4 (.236) is also larger than the Cox & Snell  $R^2$  values of all the former models

Table 12

Exponentiated Logistic Regression Model of Condom Use at First Sexual Intercourse by Adolescents

Variables	Family Background	Peer Influences	Community Factors	Complete Model
	exp <sup>β</sup>	exp <sup>β</sup>	exp <sup>β</sup>	exp <sup>β</sup>
	(1)	(2)	(3)	(4)
<i>Controls</i>				
<b>Current Age</b>	1.280**	1.227**	1.182*	1.200*
<b>Sex-(Female)<sup>+</sup></b>				
Male	.525**			
<b>Education of HH-(None)</b>		.468***	.293***	.378***
Primary	.578			
Secondary and higher	.679	.660	.671	.682
<b>Religion of Household Head-(Traditional)</b>		.713	.580	.662
None	1.577			
Other	1.118	1.387	1.682	1.695
<b>Household Socioeconomic Status</b>	.666	1.124	1.150	1.013
		.939	1.078	1.026
<b>Family of Orientation-(Both parents)</b>				
Mother	.585			.767
Father	.480			.522
Grandparents	.486			.658
Others	.183*			.233
<b>Communication with Resident Adult Family Member-(None)</b>	2.337**			
Parents	10.497**			2.375**
Grandparents				
<b>Communication with non-Resident Family Member-(None)</b>	1.734			11.740*
Parents	1.652			*
Grandparents	1.412			1.549
Other relatives	.621			1.552
<b>Punishment by Resident Adult Family Member-(No)</b>				1.192
Yes				.539
<b>Participation in Extra-mural activities-(No)</b>				
Yes		.574*		.661
<b>Discussion with Friends-(No)</b>				
Yes		.941		.912
<b>PACT Contact/involvement -(No)</b>				
Yes		2.452*		2.167

<i>Involvement of Local Leadership-(No)</i> Yes				2.247*
<i>Exposure to HIV/AIDS Awareness Campaigns-(No)</i> Yes			3.017***	.826
<i>Elders Communicate on SRH issues-(Disagree)</i> Agree			.796	.399**
<i>Elders have multiple sexual partners-(Disagree)</i> Agree			.470**	.433**
<i>Beer drinking popular-(Disagree)</i> Agree			.440**	1.418
<i>Place of Residence-(Urban)</i> Rural			1.278	1.427
				1.156
<b>Model Chi-square</b>	45.293***			63.253*
<b>df</b>	17	25.916***	37.968***	**
<b>Cox &amp; Snell R<sup>2</sup></b>	.175	10	13	26
		.104	.149	.236

\*\*\*p<.01, \*\*p<.05, \*p<.10

+ Reference categories in parenthesis

## Chapter 7

### 7. Summary, Discussion, and Conclusions

This chapter discusses the major findings of the study, and makes recommendations. The discussion follows the order in which the presentation of results had been made. In the final analysis, our study provides a basis for a broader perspective on the antecedents of HIV/AIDS awareness, and condom use at first sexual encounter among adolescents.

#### 7.1 Summary and Discussion of the Results

We had hypothesized that:

1. Compared to other types of families of orientation at age 11, a family of orientation that includes both parents is more likely to:
  - a) increase the level of adolescents' awareness of HIV/AIDS
  - b) increase the likelihood of condom use at first sexual intercourse by adolescents
  
2. Communication on sexuality at age 11, with a resident family member, is:
  - a) directly related to the level of adolescents' awareness of HIV/AIDS
  - b) directly related to the likelihood of condom use at first sexual intercourse by adolescents
  
3. Communication on sexuality at age 11, with a non-resident family member, is:
  - a) directly related to the level of adolescents' awareness of HIV/AIDS
  - b) directly related to the likelihood of condom use at first sexual intercourse
  
4. Punishment for sexually related behavior at age 11, by a resident adult family member, is:
  - a) negatively related to the level of adolescents' awareness of HIV/AIDS
  - b) negatively related to the likelihood of condom use at first sexual intercourse

5. Compared to both peer influences and community level variables, family background variables are more important in determining both awareness of HIV/AIDS, and condom use among adolescents.
6. A combination of family background factors, peer influences, and community level variables are more important in determining both HIV/AIDS awareness and the use of condoms among adolescents, than either family background factors alone, peer influences alone, or community level variables alone.

#### 7.1.1 The Influence of Family Background Factors on HIV/AIDS Awareness and Condom Use

##### *Family of Orientation at age 11*

The results for family of orientation are mixed. In both the family background and complete models, living in a family of orientation that included an adult family member(s) other than parent(s), or grandparents increased the likelihood of HIV/AIDS awareness (Table 11). This outcome is not exactly in the predicted direction. However, the finding does indicate an important role for family of orientation in HIV/AIDS awareness among adolescents. Perhaps



due to their own ignorance on the issue, parent(s) and grandparent(s) may be less able to enhance HIV/AIDS awareness among adolescents.

The findings on the relationship between family of orientation and condom use at first sexual encounter (Table 12), are less strong than the results for the relationship between family of orientation and HIV/AIDS awareness. Consistent with our hypothesis, adolescents who grew up with adult family members other than both parents were predisposed to risky sexual behavior. Growing up in a family that did not include both parents reduced the likelihood of condom use at first sexual intercourse. However, this effect is only statistically significant in the family background model (panel 1, Table 12). It has been asserted that living in a family of orientation that included both parents provides a supportive home environment that could have a positive influence on adolescent sexual behavior. Focus group discussions revealed that the presence of a “father figure” is often necessary in order to instill some discipline among children with problem behaviors. However, this belief could also be related to the issue of role modeling, which this study did not measure.

#### Communication on Sexuality with Resident Adult Family Members

The study provides strong evidence that communication on sexuality issues exerts a strong positive influence on the likelihood of HIV/AIDS awareness and condom use among adolescents. More specifically, communication with a co-resident parent(s) increased the likelihood of HIV/AIDS awareness in both the family background and complete models (Table 11). On the other hand, communication with either a parent(s) or grandparents increased the likelihood of condom use (in Table 12). In the latter case however, the effect is much stronger for communication with grandparents, than for communication with a parent(s).

These results are consistent with the findings from previous research (Kim S Miller et al 1998) that found that mother-adolescent discussions about condoms that occurred prior to sexual debut were strongly associated with greater condom use during first intercourse. There is also growing evidence that in some contexts (especially where sexuality is still treated as a taboo), adolescents will be more comfortable communicating with their grandparents or other adult relatives, rather than with their nurturing parents (see Gage 1998).

In focused interview discussions, adolescents cited parents as their most preferred sources for information on SRH. However, whoever should shoulder this responsibility of imparting sexuality information to children remains a contentious issue between teachers and parents. As one Headmaster pointed:

Our cultural norms still hinder parental involvement in HIV/AIDS prevention. Parents are not free to discuss sex issues with their kids because of age barrier...

And still another Headmaster (in apparent contradiction to above) attributed the problem of HIV/AIDS infection among students to

Moral decay...generally our traditional values have been destroyed. Kids of today don't listen to their parents. They only prioritize beer or alcohol.

With the spread of HIV/AIDS, indications are clear that parents and other family members should take more social responsibility and start communicating with their children on sexuality issues.

## Communication on Sexuality with Non-resident Adult Family Members

Communication with non-resident adult family members had no effect on condom use at first sexual intercourse (Table 12). On the other hand, communication with non-resident family members other than a parent(s) or grandparents reduced the likelihood of HIV/AIDS awareness (Table 11). This result seems surprising. However, it could imply that an adolescent had a biased reception of information that reflected half-truths or misconceptions about HIV/AIDS from these significant “Other” non-resident adult family members.

## Punishment for Sexually-related Behavior

Very little is known about the influence of punishment for sexually related behavior on adolescent sexuality. Consistent with our hypothesis however, the results show that punishment for sexually related behavior by an adult family member is negatively related to the likelihood of HIV/AIDS awareness among adolescents (Table 11). On the other hand, and despite the fact that the coefficients are in the expected direction, punishment by an adult family member had no statistically significant effect on the likelihood of condom use at first sexual intercourse among adolescent.

### 7.1.2 Individual Control Factors

This study has found that an increase in age of adolescents increased the odds that they would be aware of HIV/AIDS and would have used condoms at first sexual intercourse. In addition, males were significantly less likely to have used condoms at first sexual intercourse than females. The latter finding is a cause for concern. It indicates that despite the increased vulnerability to HIV/AIDS infection in the general population, sexually active adolescent

males are still less motivated to use condoms for protection. As noted in the literature elsewhere, safe sexual practices that include condom use are essential among the sexually active males. The issue of condom use among males is pertinent since females will find it increasingly difficult to negotiate condom use due to unequal power relations in sexuality matters.

### *7.1.3 Household level Influence*

Household head's religious affiliation was found to have negative statistically significant influence on the likelihood of HIV/AIDS awareness among adolescents. Surprisingly, education of household head did not have any statistical influence on the likelihood of either awareness of HIV/AIDS or condom use among adolescents. This is despite the fact that education, as an aspect of modernity, could have positive significant influence on adolescent sexuality (eg. by promoting liberal attitudes such as communication on sexuality issues and promotion of safe sexual practices). On the other hand, household socio-economic status only had a direct significant influence on the likelihood of HIV/AIDS awareness among adolescents. The latter result implies that, controlling for all other factors, children from poorer families are less informed, and therefore face greater risks of HIV/AIDS infection than do children from better-off families.

### *7.1.4 Peer Influence Factors on HIV/AIDS awareness and Condom use at first sexual encounter*

A large body of literature exists that shows how peer relations influence adolescent sexual behavior. While some of these studies make generalized statements about "peer pressures"

(MoH 1993, MoE 2000) this study goes further to show the linkages between specific peer influence variables and the likelihood of HIV/AIDS awareness, and condom use at first sexual intercourse among adolescents.

The results show that discussions with friends on SRH issues and PACT contact/involvement, significantly increased the likelihood of HIV/AIDS awareness among adolescents (Table 11). However, while PACT contact/involvement increased the likelihood of condom use at first sexual encounter, the result for discussion with friends on SRH issues was not statistically significant (Table 12). One possibility is that these discussions are primarily on STIs/HIV/AIDS topics that have been infused in the school curriculum. The other possibility, which was also confirmed in FGDs, is that there is no social marketing of condoms at schools owing to resistance of such approach by teachers on moral and religious grounds.

Surprisingly, participation in extra-mural activities was found to have significantly significant, negative effect on the likelihood of HIV/AIDS awareness in both the family background and complete models (Table 11) and a statistically significant negative effect on condom use at first sexual intercourse in only the family background model (Table 12). Extra-mural activities, especially the various sporting codes, attract large student participation and indications are that these activities do not have SRH component to educate adolescents on issues related to HIV/AIDS and safe sexual practices.

#### *7.1.5 Community Factors*

This study has found that involvement of Local leadership in HIV/AIDS awareness campaigns significantly increased the likelihood of both HIV/AIDS awareness (Table 11) and condom use (Table 12) among adolescents. On the other hand, exposure to HIV/AIDS

awareness campaigns only had a significant positive influence on the likelihood of HIV/AIDS awareness. Interestingly, this finding provides evidence that while mass media may be ideal for promoting key messages, they only provide what is sometimes referred to as “communication backdrop” (Warren Parker et al 1998). In order to effect behavior change, mass media needs to be supported by direct, participatory and dialogue-oriented activities on the ground.

The results in Table 12 also indicate that adolescents who agreed that *Elders Communicate on SRH* and *Elders have multiple sexual partners* were significantly less likely to have used condoms at first sexual intercourse than those who did not agree to these statements. These findings are a source of concern for implementing effective HIV/AIDS prevention activities in the country. Indications are that most adolescent females engage in unprotected sex with elders in the community. Focus group interviews with adolescents revealed that in most cases it is difficult to negotiate condom use or resist pressures to have (unintended) sexual intercourse with these elders because of the unequal power relations alluded to in the literature. In qualitative data collected from schools, 5 out of 6 Headmasters revealed that “single adult males” in the community were responsible for impregnating girls in their schools. These elders lure girls with material goods such as cellular phones or monetary gifts.

#### **7.1.6 The Relative importance of Family Background factors, Peer Influences, Community level variables and a Combined Model**

Our hypotheses that family background factors are more important in explaining either HIV/AIDS awareness and condom use among adolescents than either peer influences or community level variables have been evaluated in sections 6.1.5 and 6.2.5. The evaluation provides clear evidence to policy makers and other stakeholders engaged in HIV/AIDS prevention efforts to make more focused attention at the level of the family.

## **7.2 Conclusion**

As has been noted in the literature, the role of the family in the socialization of children cannot be overemphasized. The findings provide clear evidence that adult family members can play a significant role in issues related to their children's sexuality. Although parents tend not to carry out their responsibility, and appear not to provide the necessary SRH information to their children for fear that it will promote more sexual risk-taking, such unjustified apprehensions are not supported by this study. The findings also indicate the need for policy makers and other stakeholders engaged in HIV/AIDS prevention activities, to redirect their efforts and resources by implementing appropriate intervention strategies that recognize the relative importance of the family. Although mass media influence cannot be underrated, it has been found that more direct, participatory and dialogue-oriented approaches are effective in changing people's behavior.

### 7.3 Recommendations

In order to address the findings from this study, the following recommendations are made:

- There is urgent need for the provision of information and skills that are culture based to address communication barriers related to sexuality issues. Adult family members could be targeted at the already established institutional structures such as Parents Teachers Associations, Village Development Committees etc. This strategy should involve other stakeholders such as teachers, health care workers, including adolescents.
- Mass media can provide support by drawing on the influence of the family to minimize cultural bottlenecks related to sexuality issues. Political advocacy that promotes family involvement and participation in HIV/AIDS prevention should be initiated at all levels.
- Mass media campaigns should not only focus on providing key messages about a very limited HIV prevention options, but should also address other myths related to HIV/AIDS.
- The MoE policy of “integration and infusion” of HIV/AIDS education is very weak and need to be strengthened and the learning objectives should help students to make a distinction between facts and popular myths related to HIV/AIDS.
- There is urgent need for schools to implement HIV/AIDS prevention programmes to augment the National IEC Strategy by disseminating information about HIV/AIDS prevention in extra-curricula activities and other school fora.
- PACT activities should be widened in scope and coverage to other schools and trained Peer Educators and G&C teachers should provide the necessary human resource support.
- Community-based HIV/AIDS prevention activities should be promoted at all levels.
- Further research is needed to provide other measures of family background influence that will take into account role modeling.



## REFERENCES

1. Abt Associates Inc. (2000), “The Impact of HIV/AIDS on Current and Future Population Characteristics and Demographics in Botswana”, Gaborone.
2. Abt Associates Inc. (2000),” The Impact of HIV/AIDS on the Health Sector in Botswana”, Gaborone.
3. AIDS/STD Unit. “Young People, Sex and AIDS – A report”, (NACP 19), 1994, Botswana.
4. Adetuji J & Meekers D, (2001) “Consistency in Condom Use in the context of HIV/AIDS in Zimbabwe” *J. biosoc.Sci.* 33, 121-138.
5. Atuyambe, L. (2000) “Health Care Seeking Behaviour for Sexually Transmitted infections among adolescents in Rakai district, Uganda”. Masters thesis, Uganda.
6. Barker,GK and Rich S,1992. “Influences on Adolescent sexuality in Nigeria and Kenya: Findings from record focus-group discussions” *Studies in Family Planning*, 23(3): 199-210.
7. Botswana Family Health Survey 111(1996), Central Statistics Office, Gaborone
8. Botswana Institute for Development and Policy Analysis (2000), Macro-economic impacts of the HIV/AIDS in Botswana, Botswana.
9. Botswana Institute for Development Policy Analysis (2000), “Review and Evaluation of an Expanded National Response to the HIV/AIDS Epidemic in Botswana”, Botswana.
10. Botswana Institute for Policy Analysis (2000), “Macro-Economic Impacts of the HIV/AIDS Epidemic in Botswana”, Botswana.
11. Buchanan David (1992) “An Uneasy Alliance: Combining Qualitative and Quantitative Research Methods” *Health Education Quarterly*, 19(1) 117-135.
12. Caldwell John C et, al (1992) “Forum: On the limited Utility of KAP-style survey data in the practical epidemiology of AIDS” *Health Transition Review*, 3(2)

13. Central Statistics Office (1997) "Health Statistics Report", Botswana.
14. Central Statistics Office, (1995) "Household Income Expenditure Survey:1993/1994, Government Printer, Gaborone.
15. Central Statistics Office, (1998) " The 1991 Population & Housing Census Analytical Report", Government Printer, Gaborone.
16. Central Statistics Office (1997) "Population Report 1992 and 1993", Government Printer, Gaborone.
17. Central Statistics Office (1994), "Selected Demographic and Socio-Economic Indicators. National Summary Data by Districts", 1991 Population and Housing Census(Vol.1), Botswana.
18. Central Statistics Office (1998) "Women And Men in Botswana: Facts and Figures", Government Printer, Gaborone
19. Christine Nare, et al (1997) "Adolescents' Access to Reproductive Health and Family Planning Services in Dakar (Senegal)", *African Journal of Reproductive Health*, 1(2): 15-25.
20. Dare J & Cleland John (1994), "Reliability and survey data on sexual behaviour", *Health Transition Review*", 4(2): 93-111.
21. Djamba,Y (1997) "Theoretical Perspectives on Femal Sexual Behaviour in Africa: A Review of Conceptual Model", *African Journal of Reproductive Health*", 2(1): 67-78.
22. Doelie Elsa & Maswabi M (1998) "Men, Sex, and AIDS – A pilot study", Ministry of Health, AIDS/STD Unit, Botswana.
23. Eggleston, E , Letch J, & Jackson J (2000), "Consistency of Self-Reports ofSexual Activity Among Young Adolescents in Jamaica", *International Family Planning Perspectives*, 26(2): 79-83.
24. Gage A (1998), "Sexual Activity and Contraceptive Use: The Components of the Decision-making Process", *Studies of Family Planning*, 29(2), 154-166.

25. Gupta N & Leite I C (1999), Adolescent Fertility Behaviour: Trends and Determinants in Northern Brazil” *Family Planning Perspectives*, 25(3): 125-131.
26. Instad B & Sausestad S, (1987), “Unmarried mothers in changing Tswana society – Implications for household form and viability” *Forum For Utriklingsstudiers*, 4.
27. Louise A Hulton et al (2000), “Perceptions of the risks of sexual activity and their consequences among Ugandan Adolescents”, *Studies in Family Planning*, 31(1), 35-45.
28. Mbidzo M.T et al.; (1994) “Condom Use and the risk of HIV infection: who is being protected?” *The Central African Journal of Medicine*, 40(11),294-299.
29. Mbidzo M.T & Basset MT (1996) “Reproductive Health and AIDS in sub-Saharan Africa: the case for increased male participation” *Health Policy And Planning*; 11(1): 84-92.
30. Meekers D & Ahmed G, (2000) “Contemporary patterns of Adolescent sexuality in urban Botswana”, *J. biosoc. Sci* 32, 467-485.
31. Ministry of Health, (1995), “Fourth HIV Sentinel Surveillance in Botswana”, NACA, Gaborone, Botswana.
32. Modungwa K T, Selelo M S, Doehlie E, (1999), “Teenage Pregnancy and the risk of HIV/AIDS infection in Molepolole, Botswana”, Ministry of Health & Norwegian Board of Health.
33. Nare,C Karz, K, & Tolley E, (1997), “Adolescents’ Access to Reproductive Health and Family Planning Services in Dakar (Senegal), *African Journal of Reproductive Health*, 1(2): 15-25.
34. Population Services International (PSI), “Social Marketing for Adolescent Health. Results of operations research projects in Botswana, Cameroon, Guinea and South Africa, Social Marketing For Adolescent Health, Washington,DC.

35. Steckler, A et al (1992), “Toward Integrating Qualitative and Quantitative Methods: An Introduction”, *Health Education Quarterly*, 19(1): 1-8.
36. Temin M J, et al,(1999) “Perceptions of Sexual Behaviour and Knowledge About Sexually Transmitted Diseases Among Nigerian Adolescents”, *Family Planning Perspectives*, 25(4):186-190.
37. UNAIDS (2000), “Tsa Banana Adolescent Reproductive Health Programme(Botswana)”. Summary Booklet of Best Practice in Africa, Issue 2.
38. UNAIDS (2000), “Epidemiological Fact Sheet(Botswana) on HIV/AIDS and Sexually Transmitted Infections”, Geneva.
39. WHO (1997), “Sexual Behaviour of Young People”, *Progress in Human Reproduction Research*, 41. Switzerland.
40. Young R A, et al (2001), “Joint Actions of Parents and Adolescents in Health Conversations”, *Qualitative Health Research*, 11(1): 40-57.

# APPENDIX ONE

# INDIVIDUAL QUESTIONNAIRE

## THE ROLE OF FAMILY BACKGROUND ON HIV/AIDS AWARENESS AND CONDOM USE AMONG SECONDARY SCHOOL STUDENTS IN SELIBE-PHIKWE (BOTSWANA)

### Questionnaire Schedule

**A.**

Q.01	<b>Location:</b>	Q.02	<b>School:</b>	Q.03	<b>Form:</b>	Q.04	<b>Student#</b>
	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>
Interview date:.....		Start time:.....		Finish time:.....			
Interviewer:.....							

### B: INDIVIDUAL LEVEL CHARACTERISTICS

#### *I. Demographic*

Q.100 How old were you at your last birthday (completed years):

Q.101 Sex:

Q.102 What number are you among your living brothers and sisters?:

*II. Religion*

Q.103 What is your religious affiliation?:

**If 6 = Traditional Religion GO TO Q.200**

Q.104 Do you subscribe to Traditional Practices such as visiting the *Sangoma*, or believe in the power of ancestral spirits (or *Badimo*)

**C: HOUSEHOLD CHARACTERISTICS**

*I. Household Composition in the year before beginning school:*

Q.200 With whom did you reside in the year before you started school? (Begin with Head of Household).

<b>Seri. No.</b>	<b>Relationship to respondent</b> (1)	<b>Marital Status</b> (2)	<b>Sex</b> (3)	<b>Educ- cation</b> (4)	<b>Relig- ion</b> (5)	<b>Employ- ment Status</b> (6)	Location of primary economic activity (7)
01.							
02.							
03.							
04.							
05.							
06.							
07.							
08.							
09.							

II. Household Socio-economic Characteristics (*in the year before respondent started school*):

Q.201 Please provide the following information on the household where you resided in the year before you started school):

<b>Tenure status of head</b>	<b>Main roof material</b>	<b>Main wall material</b>	<b>Main floor material</b>	<b>Own TV</b>	<b>Own Car</b>	<b>Type of Toilet</b>	<b>Cooking Fuel</b>	<b>Water for Cooking</b>
(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)

III. Household Composition (*at age 11*):

Q.202 With whom did you reside when you were aged 11? (begin with Head of Household):

<b>Seri. No.</b>	<b>Relationship to respondent</b>	<b>Marital Status</b>	<b>Sex</b>	<b>Educ- cation</b>	<b>Relig- ion</b>	<b>Employ- ment Status</b>	<b>Location of primary economic activity</b>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
01.							
02.							
03.							
04.							
05.							
06.							
07.							
08.							
09.							
10.							

IV. *Information on Other Relatives (at age 11):*

Q.203 Please provide the following information on those relatives (parents, grandparents, brothers, sisters, uncles, aunts) who did not coreside with you when you were aged 11, but whom you feel have influenced your life in one way or another.:

<b>Seri. No.</b>	<b>Relationship to respondent</b>	<b>Marital Status</b>	<b>Sex</b>	<b>Educ- cation</b>	<b>Relig- ion</b>	<b>Employ- ment Status</b>	Location of primary economic activity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
01.							
02.							
03.							
04.							
05.							
06.							
07.							
08.							
09.							
10.							

V. *Household Socio-economic Characteristics (at age 11):*

Q.204 Please provide the following information on the household where you currently reside?

<b>Tenure status of head</b>	<b>Main roof material</b>	<b>Main wall material</b>	<b>Main floor material</b>	<b>Own TV</b>	Own Car	Type of Toilet	Cooking Fuel	<b>Water for Cooking</b>
(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)

VI. *Household Composition (current):*

Q.205 With whom do you currently reside?



<b>Seri. No</b>	<b>Relationship to respondent</b>	<b>Marital Status</b>	Age	<b>Sex</b>	<b>Educ- cation</b>	<b>Relig- ion</b>	<b>Employ- ment Status</b>	Location of primary economic activity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01.								
02.								
03.								
04.								
05.								
06.								
07.								
08.								
09.								
10.								

*VII. Information on Other Relatives (current):*

Q.206 Please provide the following information on those relatives (parents, grandparents, brothers, sisters, uncles, aunts) who do not currently coreside with you, but whom you feel have influenced your life in one way or another:.

<b>Seri. No.</b>	<b>Relationship to respondent</b>	<b>Marital Status</b>	<b>Sex</b>	<b>Educ- cation</b>	<b>Relig- ion</b>	<b>Employ- ment Status</b>	Location of primary economic activity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
01.							
02.							
03.							
04.							
05.							
06.							
07.							
08.							
09.							
10.							

*VIII. Household Socio-economic Characteristics (current):*

Q.207 Please provide the following information on the household where you currently

reside?

<b>Head's Tenure status</b> (01)	<b>Main roof material</b> (02)	<b>Main wall material</b> (03)	<b>Main floor material</b> (04)	<b>Own TV</b> (05)	Own Car (06)	Type of Toilet (07)	Cooking Fuel (08)	<b>Water for Cooking</b> (09)

#### **D: FAMILY BACKGROUND**

##### *I. Siblings:*

Q.300 Please provide the following information on all your (living and deceased) siblings.....:

<b>Seri. No.</b>	<b>Age</b> (1)	<b>Sex</b> (2)	<b>Alive/ Dead</b> (3)	<b>Resp's age at death of.....</b> (4)	<b>Educ-ation</b> (5)	<b>Primary economic activity last 12 months</b> (6)	<b>Location of primary economic activity</b> (7)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

*II. Norms*

Q.301 Do you think that beer drinking is a popular activity in your home community?.

Q.302 Do the older people in your home community normally communicate with the youth

on reproductive health (e.g. puberty, sexual relations, STIs, HIV/AIDS, contraceptives)?

Q.303 Do you think that the older people in your home community have multiple sexual partners, or engage in extra-marital sexual relations?

*III. Family Level Communication on Sexuality*

Q.304 For each of the persons listed in questions Q202, please provide the following information:

<b>Serial No:</b>	<b>Has communicated, discussed/taught you anything on puberty, sexual relations, STIs, HIV/AIDS, or contraceptives</b>	<b>How often the communication took place</b>	<b>What was specifically communicated to you</b>	<b>Has punished you physically for any sexually related behaviour eg being caught with a boy/girlfriend etc</b>
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Q.305 For each of the persons listed in questions Q203, please provide the following information:

<b>Serial No:</b>	<b>Has communicated, discussed/taught you anything on puberty, sexual relations, STIs, HIV/AIDS, or contraceptives</b>	<b>How often the communication took place</b>	<b>What was specifically communicated to you</b>	<b>Has punished you physically for any sexually related behaviour eg being caught with a boy/girlfriend etc</b>
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Q.306 For each of the persons listed in questions Q205, please provide the following information:

<b>Serial No:</b>	<b>Has communicated, discussed/taught you anything on puberty, sexual relations, STIs, HIV/AIDS, or contraceptives</b>	<b>How often the communication took place</b>	<b>What was specifically communicated to you</b>	<b>Has punished you physically for any sexually related behaviour eg being caught with a boy/girlfriend etc</b>
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				



Q.307 For each of the persons listed in questions Q206, please provide the following information:

Serial No:	Has communicated, discussed/taught you anything on puberty, sexual relations, STIs, HIV/AIDS, or contraceptives	How often the communication took place	What was specifically communicated to you	Has punished you physically for any sexually related behaviour eg being caught with a boy/girlfriend etc
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

**E: COMMUNITY LEVEL VARIABLES**

*I. Place of Residence*

Q.400 Where did you mainly live ...?:

in the year before you started school (1)	at age 11 (2)	currently (2)

*II. Peers*

Q.401 Do you participate in any extra-mural activities?  → **If 2, GO TO Q.403**

Q.402 If yes, please specify: .....  
 .....  
 .....  
 .....

Q.403 Have you and your school friends ever discussed anything concerning puberty, sexual relations, STDs, or HIV/AIDS ?  → **If 2, GO TO Q.405**

Q.404 If yes, please specify:.....  
.....  
.....

Q.405 Have you ever been personally involved in, or been in contact with anyone involved in the Peer Approach to Counselling by Teens (PACT) programme?

Q.406 If yes, please specify:.....  
.....  
.....

*III. HIV/AIDS awareness campaigns*

Q.407 Have you ever personally witnessed/participated in any drama or role play on anything concerning puberty, sexual relations, STDs, or HIV/AIDS ?

Q.408 Have you ever been exposed to any other awareness campaign on anything concerning puberty, sexual relations, STDs, or HIV/AIDS ?  → **If 2, GO TO Q410**

Q.409 If yes, please indicate source of information:.....  
.....

*IV. Local leadership*

Q.410 In the area where you live, have any local political, traditional, or religious leaders, or other famous, local personalities ever been involved in local HIV/AIDS awareness activities?  → **If 2, GO TO Q.500**

Q.411 If yes, please specify:  
a) who:.....  
.....  
b) the nature of the involvement:.....  
.....  
.....

**F: HIV/AIDS AWARENESS**

Q.500 For each of the following statements please indicate with a tick, whether you think it is true/false:

“One can avoid contracting HIV by...”

<i>Statement</i>	<b>True</b>	<b>False</b>
1. Having a good diet		
2. Staying with one faithful partner		
3. Avoiding public toilets		
4. Using condoms during sex		
5. Not touching a person who has AIDS		
6. Avoiding mosquito bites		
7. Ensuring that injections are done with sterile needles		
8. Not eating from the same plate with someone who has AIDS		
9. Abstaining from sex		

**G: SEXUAL BEHAVIOUR**

*I. Alcohol consumption:*

Q.600 Have you ever consumed alcohol?

*II. Sexual debut*

Q.601 Have you ever had sexual intercourse?

Q.602 How old were you when you first had sexual intercourse?

Q.603 With whom did you first have sexual intercourse?

Q.604 Did you/your partner use a condom during your first sexual encounter?

Q.605 If not, please explain why  
not:.....  
.....

Q.606 If Yes, whose idea was it to use a condom?

Q.607 Had you consumed alcohol/drugs when you had your first sexual encounter?

Q.608 Were you a willing participant in your first sexual encounter?





Q.609 If not, did you accept to have sex just to please your partner because he was threatening to p[ ]h you?

Q.610 Can you give any other reason.....

*III. Current sexual activity*

Q.611 Have you had sex in the last 6 months?  → **If 2, GO TO Q.617**

Q.612 How many different sexual partners have you had in the last 6 months?

Q.613 Did you use a condom on every sexual encounter you had in the last 6 months?

Q.614 If not, please explain:.....  
.....

Q.615 Did you use a condom with the last sexual partner you had?

Q.616 If not, please explain:.....  
.....

Q.617 Where do you usually obtain condoms?

Q.618 Do you make sure you always have condoms available?

# APPENDIX TWO

# **CODES MANUAL**

**THE ROLE OF FAMILY BACKGROUND ON HIV/AIDS  
AWARENESS AND CONDOM USE AMONG SECONDARY  
SCHOOL STUDENTS IN SELIBE-PHIKWE (BOTSWANA)**

Codes for Questionnaire Schedule

**A:**

- |                              |  |                           |   |
|------------------------------|--|---------------------------|---|
| <b><u>Q.01</u> Location:</b> | 1=Botshabelo A<br>2=Botshabelo B<br>3=New Stance<br><br>5=Area U<br>6=BCL/Orlando<br>7=Phase 1 | <b><u>Q.02</u> School</b> | 1=Community Junior Secondary<br>2=Senior Secondary<br><br><br><br><br><br><br>4=Western |
|------------------------------|--|---------------------------|---|

**B: INDIVIDUAL CHARACTERISTICS**

- Q.101 Sex:** 1=Male  
2=Female
- Q.103 Religion:** 1=None  
2=Catholic  
3=Anglican  
4=UCCSA  
5=Other (specify)
- Q.104 Traditional Religion:** 1=Yes  
2=No

**C: HOUSEHOLD CHARACTERISTICS**

**Q.200**

- |  |                                 |  |  |
|--|---------------------------------|--|--|
| Relationship:<br>1=Father<br>(same)<br>2=Mother<br>3=Sibling<br>(other)<br>4=Cousin<br>5=Father's parent<br>(same) | Sex:<br>1= Male<br><br>2=Female | Employment<br><b>Status:</b><br><br>1=Self-employed:<br>agriculture<br><br>2=Self-employed:<br>other | Location<br>1=Botswana<br><br>Urban<br>2=Botswana<br><br>Urban<br>3=Botswana |
|--|---------------------------------|--|--|

6=Mother' parent  
7=Father's sibling  
(other)  
8=Mother's sibling  
9=Nephew/niece  
10=Other relative  
11=Non-relative  
12=Other  
applicable

3=Employee  
4=Unemployed  
  
5=Student  
6=Don't know  
7=Not applicable

Rural  
4=Botswana  
  
Rural  
5=RSA  
6=Other  
7=Don't know  
8=Not

Education:	Religion:	Age:	Marital
1=Never been to school	1=None	99.Don't know	<b>Status:</b>
2=Incomplete Primary	2=Anglican	98.Not applicable	1=Never Married
3=Completed Primary	3=UCCSA		2.Married
4=Incomplete Secondary	4=Traditional		
5=Completed Secondary	5=Other (specify)		4=Widowed
6=Higher Education(specify)	6=Don't know		5=Don't know
7=Don't know	7=Not applicable		6=Not applicable
8=Not applicable			

Q.201

Tenure Status:	Roof Material:	Wall Material:
1=Owner		
2=Tenant	2=Corrugated metal	2=mud
3=Lodger	3.Asbestos	3=Metal/asbestos
4=Tied 1	4.Thatch	4=Other (specify)
5=Tied 2	5.Other (specify)	5=Don't know
6=Tied 3	6.Don't know	
7=Tied 4		
8=Other(specify)		

Floor Material	Own TV/Car
1.Tiles	
2.Cement/concrete	2.No
3.Dung	3.Dont know
4.Earth/mud	
5.Don't know	

<b>Type of Toilet:</b>	<b>Cooking Fuel</b>	<b>Cooking Water</b>
1.None		
2.Pit latrine	2.Paraffin	2.Unprotected well
3.Flush toilet	3.Gas	3.Protected well
4.Other (specify)	4.Electricity	4.Borehole
5.Don't know	5.Don't know	5.Pipe water at home
		6.Don't know

**Q.202** (see codes for Q.200)

**Q.203** (see codes for Q.200)

**Q.204** (see codes for Q.201)

**Q.205** (see codes for Q.200)

**Q.206** (see codes for Q.200)

**Q.207** (see codes for Q.201)

**D: FAMILY BACKGROUND**

Q.300 (see codes for Q.200) + Alive/Dead: **1=Alive**  
**2=Dead**

**Q.301 Beer Drinking:** 1=Strongly Agree  
2=Agree  
3=Disagree  
4=Strongly Disagree

**Q.302 Communication:** 1=Strongly Agree  
2=Agree  
3=Disagree

**Q.303 Partners:** 1=Strongly Agree  
2=Agree  
3=Disagree

**Q.304 to Q.307**

<b>Discussion:</b>	<b>How Often:</b>	<b>Punishment:</b>
1.Yes	1=Never	1.Yes
2.No	2=Sometimes	2.No
	3=Often	

**E: COMMUNITY LEVEL VARIABLES**

**Q.400 Place of Residence:**  
1=Village





# APPENDIX THREE

## QUESTIONNAIRE FOR SCHOOLS

THE ROLE OF FAMILY BACKGROUND ON HIV/AIDS AWARENESS  
AND CONDOM USE AMONG SECONDARY SCHOOL STUDENTS IN  
SELIBE-PHIKWE (BOTSWANA)

## Questionnaire for Schools

### A. IDENTIFICATION:

Q.01 School: <input type="checkbox"/>	Q.02 Locality: <input type="checkbox"/>	
Q.03 Interviewee: <input type="checkbox"/>		
Interview date:.....	Start time:.....	Finish time:.....
Interviewer:.....		

#### *Q.03 Interviewee*

- 1=Headmaster
- 2=Deputy Headmaster
- 3=Senior Teacher
- 4=Hostel Matron/Boarding Master

#### *Q02 Locality*

- 1=Botshabelo A
- 2=Botshabelo B
- 3=Western Area
- 4=Area U
- 5. New Stance
- 6. BCL/Orlando
- 7. Phase 1

### B: PERSONAL CHARACTERISTICS

#### *Demographic:*

**Q.100 Age at last birthd  (completed years)**

**Q.101 Sex**

1=Male 2=Female

Q.102 *Length of service:*

- 1=< 5 years
- 2=5-9 years
- 3=10-14 years
- 4=15 years or more

**C: ENROLLMENT**

**Q.200 Can you please provide the following school enrolment statistics**

Level	Sex		Sex Ratio
	Male	Female	
Form I			
Form II			
Form III			
Form IV			
Form V			
Total			

Q.201 Do you provide any accommodation for your students?

→ If 2, GO TO Q.203

1=Yes 2=No

Q.202 How many of your students are:

a) Boarders       b) Day scholars

**Q.203 According to your knowledge, what are the living arrangements for the majority of the day scholars?**

**1=Living with parents 2=Staying alone in rented apartments 3=Living with friends in rented apartments 4=Other (specify).....**

**D: PREGNANCY-RELATED DROP-OUTS**

I am now going to ask you questions regarding teenage pregnancies and school-dropouts.

Q.300 In the past 12 months, how many cases of pregnancy-related “drop-outs” occurred at

school?

Q.301 How are you made aware of the fact that any one of your students is pregnant?

1=Observation

- 2=Medical check-up
- 3=Matron report
- 4=Class Teacher's report
- 5=Self-reporting by student to you

Q.302 Do the schoolgirls tell you who made them pregnant?

1=Yes

2=No

Q.303 To whom do you think it is easier for schoolgirls to reveal their pregnancy status?

1=Class teacher

2=Matron

3="Head girl"

4="Class monitor"

5=Other (specify).....

Q.304 In your opinion, who are those responsible for impregnating the girls at your school?

1=Fellow students, same school

2=Students, other schools

3=Youth, not at school

4=Married, adult men in the local community

5=Single, adult men in the local community

Q.305 Do you call parents to your office so as to discuss their child's pregnancy with you?

1=Yes

2= No

**If 2, GO TO Q.308**

Q.306 If yes, are the parents generally open when talking about pregnancy issues?

.....  
.....

Q.307 How do they react when talking about sexuality issues in general?

.....  
.....

Q.308 What measures do you take once a girl is discovered pregnant?

.....  
.....

## E: HIV/AIDS AWARENESS AND PARENTAL INFLUENCE

Now I would like to ask you some questions related to HIV/AIDS and parental influence/involvement.

Q.400 How do you respond to the following statement?:

“Schools must take the major responsibility for educating the youth on HIV/AIDS”

→ If 3 or 4, GO TO

- 1=Strongly Agree
- 2=Agree
- 3=Disagree
- 4=Strongly Disagree

Q.401 Please describe how you think this teaching should be done

.....  
.....  
.....  
.....

Q.402 Why do you disagree?

.....  
.....  
.....

Q.403 How do you respond to the following statement?:

“It is crucial that parents be involved in HIV/AIDS prevention campaigns among the youth, in such fora as Parents Teachers Association (PTA) meetings, or other such organisations?”

- 1=Strongly Agree
- 2=Agree
- 3=Disagree
- 4=Strongly Disagree

Q.404 Have you yourself ever involved parents in HIV/AIDS prevention campaigns in such *fora* as PTA (Parents Teachers Association) meetings, or other organizations?

- 1=Yes
- 2=No

Q.405 If no, or little parental involvement, what do you think is the main reason(s) for parents' lack of participation or interest?

.....  
.....  
.....

Q.406 What do you think should be done to involve parents in HIV/AIDS prevention awareness among their children?

.....  
.....  
.....

Q.407 How do you respond to the following statement:

“The school curriculum must include Family Life Education”

- 1=Strongly Agree
- 2=Agree
- 3=Disagree
- 4=Strongly Disagree

Q.408 Do you have Family Life Education in your school curriculum?

**If 2, GO TO Q.411**

- 1=Yes
- 2=No

Q.409 Do you include HIV/AIDS IEC activities in the Family Life Education taught in your school?

- 1=Yes
- 2=No

Q.410 If yes, how?

.....  
.....  
.....

Q.411 If No, have you made a plan for the prevention of HIV/AIDS at your school?

**If 1, GO TO Q413**

- 1=Yes
- 2=No



Q.412 If not, are you intending to make one?

1=Yes

2=No

Q.413 In the past 12 months, how many times was the problem of HIV/AIDS on the agenda

at your staff meetings?

Q.414 What is your attitude towards teaching issues of sexuality to students?

1=Very favourable

2=Favourable

3=Unfavourable

4=Very unfavourable

Q.415 Please describe the general attitude of your staff towards teaching of sexuality issues

to students?

1=Very favourable

2=Favourable

3=Unfavourable

4=Very unfavourable

Q.416 Regarding the prevention aspect of HIV/AIDS, what methods do you promote among your students?

- 1).....
- 2).....
- 3).....

Q.417 How do you respond to the following statement:

“Schools should provide students with education on contraceptive use”

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

Q.418 Are students educated about contraceptive use/condoms in your school?

1=Yes  
2=No

If 2, GO TO Q.420

Q.419 If yes, who provides the education?

.....  
.....  
.....

Q.420 How do you respond to the following statement:

“Condoms should be made available to students at school”

1=Strongly Agree  
2=Agree  
3=Disagree  
4=Strongly Disagree

Q.421 Describe how you think the condoms should be made available to students

.....  
.....

Q.422 Do you think HIV/AIDS infection in general is on the increase among high school students?

1. Yes      2. No      3. Not sure      4. Don't know

**Q.423 If yes, what do you think could be the most important contributing factors to this problem of HIV/AIDS infection among students?**

.....  
.....  
.....

Q.424 Do you have any other comments?

.....  
.....  
.....

END