HIV/AIDS Stigma and Condom Use among Adolescents in Lesotho

Introduction

This paper will examine how stigma towards HIV/AIDS is related to adolescents' sexual behavior in Lesotho. One cannot overestimate the importance of understanding causal factors in sexual decision-making, as intercourse remains the predominant mode of spreading HIV/AIDS in sub-Saharan Africa. In Lesotho, about 28.9% of adults aged 15-49 have been reported to be infected with HIV (UNAIDS, 2004). This figure makes Lesotho the third hard hit country by the HIV/AIDS epidemic. There are approximately, 270, 000 people now living with HIV/AIDS in the country, and about 23, 000 died from the infection in 2005 (UNAIDS, 2006). However, only 2, 500 to 3, 000 were reported to be receiving antiretroviral therapy (ART) in 2005. HIV/AIDS poses serious developmental challenges to this poor country through loss of productive manpower, increasing number of orphans.

HIV infections emerge and increase quite rapidly towards peak levels within adolescent ages. For instance, the 2004 Lesotho Demographic and Health Survey (LDHS) reported that 5.3% of 15-19 year olds were HIV positive, and the figure triples to 19.5% for 20-24 year olds (Ministry of Health and Social Welfare, 2005). Similar prevalence increments have been estimated for other sub-Saharan African countries. For instance, in South Africa, HIV prevalence increased from 6.3% to 15% between age groups 15-19 and 20-24 (HSRC, 2005). The reasons for such large increases are that adolescents are more prone to risky behaviors which make them vulnerable to the infection. Such risky behaviors include substance abuse, multiple sexual partnerships, and vulnerability to coercion (Karim et al., 2003). Thus efforts to curb the epidemic have focused on adolescents.

Although there are controversies about implementation for HIV/AIDS interventions (see Preston-Whyte, 1999), countries have adopted the UNAIDS advocacy of ABCs (**A**bstain, **B**e Faithful, Use **C**ondoms) in order to curb the epidemic among adolescents. Young people are encouraged to delay sexual activity. However, when they do become sexually active, adolescents are encouraged to practice

safe sex by being faithful to one partner and by consistently using condoms properly. This advocacy has been facilitated through information dissemination about HIV/AIDS transmission and measures of protection. A success story on these interventions has been Uganda - once the highest prevalence rate - where delayed sexual debut and increased condom use among adolescents are reported to have highly reduced infection rates (Asiimwe-Okiror et al., 1997).

Nonetheless, Uganda is still the only success story as infection rates continue to escalate in many part of the World, and more so in Southern Africa. Research on the impact of HIV/AIDS programmes have highlighted the role of HIV/AIDS stigma as a major inhibiting factor to curbing the epidemic (Herek and Capitanio, 1998; Brown et al, 2003). From the very beginning of the epidemic, social responses to HIV have been fear, denial, stigma and discrimination. People do not want to identify with the disease, stigmatizing individuals infected and affected by it. Stigma separates people within a society as "them and us" (Goffman, 1963). As a result, information dissemination about the disease, as well as the translation of knowledge into practice, have been compromised (UNAIDS, 2004).

In this research, we intend to explore the relationship between HIV/AIDS stigma and sexual behaviour among adolescents in Lesotho. We are particularly interested in two main questions: 1) Is stigma related to whether or not someone has had sex? and 2) Is stigma related to whether or not someone who has had sex is using condoms? These questions will help us understand the impact of the stigma around HIV/AIDS in curbing the epidemic among young people.

If high levels of stigma cause individuals to begin having sex at an earlier age than normal, and cause individuals to avoid using condoms, then combating stigma is an obvious place to focus our energy in the fight against the spread of HIV/AIDS. Thus, we need to understand the complex mechanisms which translate feelings of HIV/AIDS stigma into risky sexual behavior.

Stigma and HIV/AIDS

Stigma towards HIV/AIDS is associated with fear, ignorance and denial (Herek, 1999). Specifically, fear of discrimination prevents getting tested, and knowledge of status could potentially change behavior (Brown et al., 2003).

In order to understand how stigma towards HIV/AIDS translates into risky sexual behaviors, we have divided our conceptualization of stigma into two types: enacted stigma and perceived or felt stigma. Enacted stigma is expressed when a person discriminates against those living with HIV/AIDS (whether in thought or in action) and sees those people as very different from himself (Herek et al., 1996). Thus, enacted stigma is defined as ways in which the public reacts towards individuals in a certain group, based on negative attitudes toward that group's characteristics (Brown et al., 2003). Enacted stigma often plays out in the ostracism and isolation of individuals labeled as part of the stigmatized group, such that the ostracized individuals are seen as completely different from the whole.

Felt or perceived or expressed stigma, is expressed when a person either experiences or fears discrimination due to being or becoming HIV-positive (Herek et al., 1996). This second form of HIV/AIDS stigma is defined as real or imagined fear of societal attitudes and potential discrimination (ibid). Another definition felt stigma is shielding a sick relative from the community for fear of rejection (Harma et al., 2006). Thus felt stigma measures personal fear of ostracism as well as fear for others, especially family and friends.

The reason for our division is that the two different kinds of stigma, while closely related to one another, may have opposing effects on the likelihood of delaying sexual debut and of using condoms regularly. Thus, we would theoretically expect to see different behavioral outcomes, with those adolescents who exhibit high enacted stigma starting sexual activity earlier and using condoms less consistently, and those adolescents who exhibit high felt stigma having sex later and using condoms

more frequently. Therefore, we predict that separating stigma into enacted and felt will point more clearly to a causal relationship between stigma and the types of behavior of interest.

People with high enacted stigma towards those with HIV/AIDS believe that it is other people's disease, not theirs (Herek, 1999). Thus, we hypothesize that those with high enacted stigma are unlikely to alter their behaviors in order to protect themselves from the disease. Therefore, the predicted relationship is that those individuals with high enacted HIV/AIDS stigma will be more likely than their non-stigmatizing counterparts to have sex at an earlier age, and to have sex without the regular use of condoms.

Felt stigma, on the other hand, can result in people not wanting to find themselves as part of the deviant group. Thus, in order to prevent ostracism, these individuals are likely to exercise more caution in order to avoid being stigmatized themselves (Letamo, 2004). Therefore, we hypothesize that those adolescents who exhibit high felt HIV/AIDS stigma will be more likely than their non-stigmatizing counterparts, to delay their sexual debut, and to use condoms regularly once they do begin to have sex.

Clearly, the distinction between the two types of stigma is critical to our analysis because they are likely to have opposite predicted effects on behavior. Also, with a better understanding of the motivations of adolescents to practice safe sex, the necessary steps can then be taken to slow the spread of HIV in Lesotho.

Knowledge of HIV transmission has also been highlighted as not only impeding efforts to curb the epidemic, but also its association with HIV/AIDS stigma. Using data from the highest prevalence country, Botswana, Letamo (2004) showed that respondents who did not know that one can reduce contracting HIV infection by consistent use of a condom were more likely to stigmatize than those who knew. Nonetheless, Harma and colleagues (2006) found lack of association between condom use and expressed stigma among families caring for HIV infected children. In addition, misconceptions about HIV/AIDS were also associated with higher levels of stigma. For instance, people who believed a

person can get HIV/AIDS from sharing food were more likely to stigmatize at all measures of stigma (Letamo, 2004). Although people with higher knowledge of HIV/AIDS transmission tend to have lower stigma, studies found mixed results (see Harma et al., 2006).

Country Background

Faced with many developmental challenges, the Kingdom of Lesotho is striving to survive as an independent and sovereign nation in the increasingly globalizing world, taking all opportunities to ensure that its voice and actions are heard for the overall well-being of the people. Lesotho is a small landlocked country situated entirely within the borders of South Africa. As a result, the history and socio-economic development of the country is intricately linked to South Africa. The total population of Lesotho is estimated at about 2.2 million, about 80% of which lives in rural areas (Bureau of Statistics, 2003). It is one of the world's poorest countries, ranking 145th on the Human Development Index (UNDP, 2005).

Nonetheless, relative to many sub-Saharan countries, Lesotho has a high literacy rate, estimated at 83% (Bureau of Statistics, 2003). Although school attendance has been rising in Lesotho, there is persistent disparity in the proportion of males and females who had never attended school; more females than males attend school. This is a peculiar fact in Lesotho relative to its African counterparts. The 2001 Demographic Survey showed a 13.6 % difference in the proportion of males and females that had never attended school (Bureau of Statistics, 2003).

The higher rate of school attendance by females relative to males is embedded in the history and the culture of Basotho. Basotho custom requires young boys to herd their family's cattle, sheep and goats, since the families depend on the meat, milk and income from these animals (Kimane et la., 1999). However, despite higher school enrollment for females, Basotho society is relatively homogeneous and still very patriarchal. Based on the customary and common laws enshrined in the Constitution, the man is the head of the household and of the family, and he is the sole decision maker.

For over a century, the South African mines had been offering ready, lucrative and lifetime employment for many Basotho men. About 60% of Basotho men reported to have ever been employed in the South African mines in 1994 (Makatjane, 1996). Currently, 1 in every 7 adult males are working in South Africa (BOS, 2003). Since formal education is not required in the mines, schooling is sidelined by a majority of these men. As a result, women acquire higher rates of educational attainment and literacy than men, and dominate the running of rural small holdings; these holdings provide subsistence agriculture to the majority of the population. In urban centers, women account for 62% of the professional and technical positions in the formal sector (Kimaryo et al., 2004). Nonetheless, men still dominate higher administrative and managerial posts in government and in the private sector (ibid).

In addition, the separation of couples due to labour migration has also been highlighted in HIV/AIDS literature. In particular, migrants tend to be at a higher risk of HIV infection and other STDs than people in stable living arrangements as living away from spouses increases the likelihood of having additional sexual partners. However, using a similar high labour migration setting in South Africa, Lurie (2006) showed that men and women were more likely to be infected from outside relationships than their spouses regardless of migration status.

Factors associated with the spread of HIV/AIDS in Lesotho include intergenerational sex, high mobility, and early sexual debut (UNAIDS, 2006). One of the key social mobilization events in 2005 was the launch of the Operational Plan to "Know Your Status" campaign by His Majesty King Letsie III. This plan expressed the government's desire to accelerate and scale up the national response.

Adolescent Sexuality and Condom Use

Adolescent Sexuality

In order to understand how HIV/AIDS stigma might operate in influencing young people's sexual behavior, one must reflect on the social context of adolescent sexual behavior in Lesotho. The HIV/AIDS epidemic in sub-Saharan Africa has been closely linked to the culture around reproduction

and sexuality. Smith (2005) has indicated that childbearing concerns tend to shadow the fear of HIV/AIDS among young Nigerian women. The high value of reproduction has translated into low levels of contraceptive use, hence low use of condoms.

However, it is unlikely that low condom use among adolescents in Lesotho is related to one's desire to have a child. Marriage and childbearing *are* universally valued in Lesotho—by age 49, 97% of all men and women have ever married (BOS, 2003). Nonetheless, while Sesotho culture reflects a desire and expectation for childbearing, it also discourages premarital sex and premarital childbearing (Kimane et al., 1999). This is evident when comparing the adolescent pregnancy rates in Lesotho to other places in the region. For instance, compared to 21% of Botswana girls, only 3% of never married Basotho girls aged 15-19 had given birth (Mturi and Moerane, 2001). In the past, if a girl in Lesotho became pregnant before marriage, she would bring shame to herself and the family. She would also reduce her chances of getting married to another man if the father of the child did not marry her. Her child would be outcast and assigned a derogatory name. Disapproval of premarital pregnancy was also demonstrated through punishment of the deviant girl. For example, pregnant girls were generally forced to leave school. These punishments were then used to deter others from such deviant behavior.

However, despite the increasing number of premarital births in Lesotho, the stigmatization around unmarried pregnancy and sexual behavior persists today. About 14.7% and 1.8% females and males, respectively, aged 15-19, reported to have ever been, or to have made a woman, pregnant (BOS, 2003). In their study on socio-cultural variables influencing population and development, Kimane and colleagues (1999) indicated that most of the premarital pregnancies are unplanned, coming as a complete shock to the teenagers concerned. This then, suggests low contraceptive use among young people and therefore a heightened risk of exposure to HIV infection.

Issues around sexual and reproductive health though, are not openly discussed with adolescents in Lesotho. Adolescents reported to receive this information mainly from traditional initiation schools, and

to a limited extent, from their parents (Mturi and Hennik, 2005). However, parents said they generally do not discuss sexual issues at all with their children. Those that do "discuss" sexual and reproductive health issues with their children though, focus on scare tactics to deter sexual activity. This factor is exacerbated by lack of comprehensive sex education in schools (ibid). Therefore, young people do not have access to adequate knowledge, skills and resources to protect themselves from the HIV infection.

Further, stigma surrounding adolescent sexual behavior in Lesotho also prevents adolescents from accessing reproductive health services and obtaining condoms. Due to stigma, many adolescents are thus concerned about how their actions will appear to nurses in the health clinic and to the larger community (Mturi, 2001).

It is evident that young people's sexual behavior is influenced by their own demographic characteristics, as well as their knowledge and attitudes (in this case stigma) towards HIV/AIDS. However, demographic characteristics can also operate through knowledge and attitudes, to translate into behavior. While behavior is likely to be influenced by personal characteristics, as well as knowledge and attitudes toward HIV, all sexual behavior takes place within the contextual norms regarding such behavior in society.

These sexual behavior norms tend to operate differently for boys and girls. A study conducted by Betts et al. (2003) in Zimbabwe, emphasized the gender differences in adolescents' engagement in safe sex. This study focused on adolescents currently enrolled in school. They referred to safe sex as always using a condom during sexual activity. It was found that adolescent boys who engaged in safe sex were more likely to be older, have supportive families, and have strong social environments (Betts et al, 2003). Girls though, who engaged in safe sex, were more concerned about contracting HIV/AIDS than those who were involved in unsafe sex. Additionally, a gender difference arose in relation to perceived risk of infection.

Sexual health education is paramount in dispelling myths that surround HIV/AIDS. Knowledge of safe sexual practices and of HIV/AIDS is imperative. A study done on the sexual behavior among youth in South Africa highlighted the relationship between formal education and sexual behavior. This study done by Zambuko and Mturi concluded that adolescents who have at least a secondary education and are currently enrolled in school are less likely to indulge in higher-risk sexual behavior. Moreover, school attendance and enrollment reduces the risk of contracting HIV/AIDS (Zambuko and Mturi, 2005). However, despite this conclusion, a clear paradox exists between knowledge of safe sex and reported sexual behavior, as UN AIDS reported in 2006 that of adolescents ages 15-24 in Lesotho, 48% of men and 50% of women used a condom last time they had sex with a casual partner (UNAIDS, 2006).

Condom Use

There is no evidence to suggest that attitudes towards condoms are directly related to their use, or translate into safe sex behavior (Giles et al., 2005). Instead, decisions about condom use are governed more by social factors in traditional contexts. In addition, group and cultural factors also make a substantial contribution to safe-sex decision making. In their study Giles and colleagues, found that one of the most significant predictors of the intention to use a condom is self-efficacy, or the extent to which an individual believes he/she has the ability to use or insist on a condom. Community and social factors though, such as peer pressure, parental pressure and the social construction of male and female sexuality hinder condom use and translate into unsafe sexual behaviors (MacPhail and Campbell, 2001). Fear of contracting HIV, not knowing where to obtain condoms, and one's cultural beliefs were also significant predictors of intention to use condoms.

In addition to the stigma surrounding adolescent sexual behavior, condoms themselves are subject to social stigma. According to a study published by Gavey et al, "condomless sexual intercourse is associated with commitment, trust and true love"(Gavey, 2001: 918). This suggests that not using condoms characterizes a serious relationship. However, negotiating condom use has different

implications for men and women. The notion that males "need" sex and that young women who carry condoms are "sexually promiscuous" pervades social consciousness. Consequently we can see that there is a need to emphasize and understand condom use in relation to some complex gender dynamics that saturate heterosexual relations. There is a great need to look at women's empowerment as a significant factor in determining condom use and sexual activity.

Adolescents conduct their sexual lives through experiences and beliefs that have been generated through their membership of particular communities (MacPhail and Campbell, 2001). Condom use as an indicator of safe sex behavior may not only be a reflection of knowledge, gender dynamics and well established socio-cultural norms, but may also be an indicator of stigma towards HIV/AIDS. HIV-related stigma can play out in one of two ways depending on whether it is enacted or felt. If individuals believe that HIV/AIDS is a disease for certain people not them, they are not likely to modify their sexual behaviors in order to protect themselves from the diseases. On the other hand, if they are scared of the HIV/AIDS label, they are likely to take measures that would protect them from contracting the disease.

Data and Methods

This research uses data from 2004 Lesotho Demographic and Health Survey (LDHS) conducted by the ORC Macro International in collaboration with the Bureau of Statistics and Ministry of Health and Social Welfare (ORC Macro, 2006). A two-stage sample designed was employed where 405 clusters, 109 in urban and 296 in rural areas, were selected from the 1996 population census frame enumeration areas list, and then systematic households were selected from each cluster.

Women aged 15-49 reported on the household roster who were reported as either permanent residents or visitors present in the household on the night before the survey were eligible to be interviewed. Another interesting component about this data set was that a sub-sample of men aged 15-59 years was also selected. These were men in every second household selected for the survey who were either permanent residents or visitors present in the household the night before the survey.

Three questionnaires were administered in the 2004 LDHS: household, women and men questionnaires. The household questionnaire helped to identify eligible members, while also recording basic information about other household members and housing characteristics. Both the women and men questionnaires collected information on sexual behaviour that was pertinent for this analysis. In particular, the data collected included knowledge and use of family planning methods; marriage and sexual activity; as well as awareness and behaviour regarding AIDS, other sexually transmitted infections (STIs), and TB. Other background characteristics such as education, residential history and media exposure will also be employed in the analysis. The 2004 LDHS response rate was good. A total of 7, 095 women and 2, 797 men interviewed represented 94.3% and 84.6% response rates, respectively. As expected, the lower response rate for men reflects the high male labor migration in the country.

Sample

As indicated earlier, the current research aims at investigating how stigma towards people with HIV/AIDS affects adolescents' sexual behavior. Adolescents are defined as all individuals aged 15-24. The research focuses on adolescents for three reasons. First, adolescents present a very fragile age group in the AIDS epidemic. The 2004 LDHS also administered HIV tests and of the 26.4% female and 19.3% male adult prevalence rates, adolescents aged 20-24 presented 24.5% and 11.4% female and male prevalence rates respectively (ORC Marco, 2006). This shows that adolescence is not only a time for new infections but it also harbors high risk and spread of the infection since this is a time of many turnovers of relationships. Secondly, because a significant proportion of youth in this age range have not yet had sex, it allows us to compare those who have had sex with those who have not had sex and to see whether stigma is related to the onset of sexual activity. Abstinence as a form of sexual behavior has been relatively neglected in previous literature. Therefore, we restrict our sample to unmarried adolescents because they present different sexual behaviors and HIV/AIDS risk from the married ones (also see Clark et al., 2006).

Lastly, AIDS is still a relatively recent epidemic, and we expect that the sexual behavior of adolescents that reached adolescence in the late 1990s would have very different exposure and responses to discourse on AIDS than those that grew up earlier. Furthermore we expect that there would be both significant period and cohort effects on current behavior--both the current discourse on AIDS and the discourse on AIDS that existed when an individual first became sexually active are likely to play a role in current behavior. By focusing on adolescents, we avoid the problem of having to control for differential period and cohort effects that would make the results more difficult to interpret.

Methods

Since very little is known about the sexual behavior of adolescents in Lesotho, we begin our analysis by presenting some descriptive statistics on sexual activity, condom use, HIV knowledge and stigma toward individuals with HIV/AIDS.

Since stigma towards people with HIV/AIDS is also associated with knowledge about HIV/AIDS transmission, we also look at the relationship between various types of knowledge and myths about HIV/AIDS transmission and two types of Stigma. Enacted stigma looks at stigma towards people who are far from the individual while felt stigma looks at people who are close to the individual. We then move on to predictive models in which we begin to assess the relationship between having stigma toward individuals with HIV and sexual activity.

We use logistic regression to estimate three main models. In the first model, we predict the odds of having had sex for all unmarried adolescents 15-24. The second model predicts the odds of currently using a condom for unmarried sexually active female adolescents, while the third model predicts ever using a condom for males[1]. In all cases we focus our analysis on our main independent variable of interest--stigma. Our primary question is whether stigma (measured as avoidance behavior) toward

[1] There were data problems with last condom use for males, and ever using a condom for females since the questionnaires were different.

individuals with HIV/AIDS is related to whether or not someone has ever had sex or whether or not someone who has had sex is using a condom.

Results

Basic Descriptive Statistics

Table 1 presents the descriptive statistics of our sample. About a quarter of the respondents live in urban areas, with about 18 years mean age. The modal age group is age 16 for both males (see figure 1). The majority of our sample population consists mostly of younger adolescents. This provides justification for using abstinence as a variable in our analysis, as many adolescents in this age range have yet to sexually debut. This allows us to compare the behavior or those who have had sex with those who have not to determine if stigma is related to sexual activity. In addition, majority of these adolescents are still in school, although girls' school enrolment is higher than that of boys by 6%.

At the same time, boys are more likely to be sexually active than girls - about 18% gender difference in sexual activity is observed in this data set. These results are somewhat peculiar in that it is not usually the case that men have had more sex than women leading us to conclude that women abstain from sexual behavior more than males do[2]. These results correspond with those demonstrated in Figure 3. Figure 3 graphs the proportion of adolescents by age at first sex and gender. Here we can see that males have sexual debut earlier than women, and that females only catch up to men around the age of 19 as this is the age corresponds with early marriage. Consequently, men have had sex more than women as they experience sexual debut much earlier. If indeed school enrolment is associated with lower risky behaviors, then the gender difference in school enrolment might explain delayed sexual debut, higher condom use as well as higher knowledge of prevention methods by females than males.

We have concluded and demonstrated in our previous analysis that knowledge is an important factor in measuring and understanding HIV/AIDS related stigma. Figure 4 graphs knowledge

[2] We also ran this distribution for the whole data set of reproductive men and women, and the differences persisted throughout all the age groups.

of HIV prevention using the ABC's and gender. Females are more knowledgeable of the ABC's and methods of preventing HIV transmission than men. This is interesting as it may be consistent with the fact that females are abstaining from sexual behavior more so than males.

From Figure 4 we developed an HIV prevention and knowledge index by gender based on how many methods of prevention one knows. Consistent with Figure 4 and the above interpretation, Figure 5 shows that females know more methods of prevention than do males. Thus, because females refrain from sex more than males, knowledge of HIV/AIDS and HIV prevention methods may translate into their sexual behavior, or lack there of.

We used five variables to measure stigma. These five variables were divided by the type of stigma they measured, enacted or self felt. The first three questions are related to enacted stigma and the last two questions pertain to self felt stigma. People in our sample population were asked yes, no, or do not know questions relating to these five variables. Table 2 represents the percentage of yes answers as compared to no answers for each question. A little above 1% of the adolescents showed no specific attitudes towards people with HIV/AIDS. An answer of no represents the presence of stigma. Clearly, there are still high levels of stigma towards people with HIV/AIDS in Lesotho. Close to half of the adolescents showed stigma towards non relatives who are HIV positive. This we defined as enacted stigma. What was interesting was that stigma towards relatives was much lower. About 15.8% adolescents were not willing to care for their HIV positive relative. While this question may represent socially desirable responses, and/or lack of choice for many adolescents, it also suggests higher levels of stigma for those who say no. When asked if they would keep the HIV status of their family member secret, 29.8% said yes. This response indicates that many people are willing to conceal HIV status, including that of their family members because they fear for them as much as they fear for themselves too since they are associated with the person who has HIV

To determine if a gender disparity exists in the expression of stigma towards people living with HIV/AIDS, we developed a stigma index by gender, which is represented by Figure 5. This index was developed by giving a value of one to each stigma variable. Each time an individual would answer no to one of the five questions, he or she was given one point. The possible range of the stigma index is thus zero to five, five representing very high stigma. A score zero indicates no stigma, while a score of 1-2 is low stigma, and that of 3-5 corresponds with high levels of stigmatization. About 30% of females versus 20% of males presented no stigma towards people with HIV/AIDS, while half of the males have higher stigma. From this index we can conclude that males stigmatize more and hold higher levels of stigma than do their female counterparts.

Lastly, we created two separate indices for our two types of stigma, the graphs of which can be seen in Figure 6. In terms of enacted stigma, the index shows that there are a great number of people who hold very high stigma. Conversely, as demonstrated by the felt stigma index, about 5% of the adolescent possessed high stigmatizing attitudes versus 58% who did not show any felt stigma.

Logistic Regression Analysis: Stigma and Sexual Activity

Our first multivariate regression analysis tested whether stigma towards HIV/AIDS results in adolescents being more or less likely to have had sex. Our final model included key demographic variables which the literature suggests would be important in determining sexual activity: age, sex, geography (urban vs. rural), and school status (currently enrolled or not). It also included variables measuring knowledge of HIV/AIDS and modes of prevention (including the ABCs), and either our five individual measures of stigma (see model 4), our stigma index (see model 5), or our two indices of felt and enacted stigma (see model 6).

Controlling for other variables in each model, the results support the descriptive statistics before, and show that male adolescents are two times more likely to have had sex than female adolescents. As expected that school enrolment is a protective factor for young people's sexual behavior, adolescents

who were currently in school were less likely to have had sex relative to their peers who were not in school. Interestingly, those adolescents who reported that abstinence was a way to prevent HIV were less likely than their uninformed peers to have had sex. Thus it appears that education and knowledge or acknowledgement of abstinence may lead to an adolescent's decision to postpone sexual debut. Again, those who have heard of HIV/AIDS and/or knew someone with HIV or someone who has died from HIV/AIDS were more likely not to abstain from sex. This could suggest that HIV/AIDS is news to mainly sexually active people.

Still controlling for other variables in model 4, it was interesting to observe that none of the stigma variables (whether taken individually or as indices) proved statistically significant predictors of whether a person has had sex. So our first research question was answered decisively by the data: stigma, whether enacted or felt, is not related to whether a person has had sex.

Logistic Regression Analysis: Stigma and Condom Use at Last Sex (Females)

The same independent variables were used in this regression analysis as were used for the previous regression. However, here the dependent variable of interest is whether the female respondents surveyed had used a condom the last time they had sex. Our sample for this analysis was thus limited to adolescents who were sexually active, and only women were included because the Lesotho DHS only asked this question of females.

Net of other factors in the models, sexually active female adolescents who knew that using a condom was an effective method for preventing HIV were close to twice as likely to have used a condom at last sex than their peers who did not know. This result, especially when taken with the findings from the previous regression analysis, reinforce the current emphasis on knowledge of the ABCs (Abstaining from sex, Being faithful to one partner, and consistent use of Condoms) in attempting to change behavior. Knowing that abstinence or condom use are options in protecting one's health increases the likelihood that an individual will utilize those options.

Taken individually, the variables for stigma were not statistically significant in their relationship to recent condom use. However, when combined into a composite Stigma Index, individuals who scored high on stigma in general were slightly less likely (.864, see model 5) to have used condoms at last sex. Our further exploration in model 6 shows that while our index of felt stigma appears unrelated to whether a woman used a condom the last time she had intercourse, women with high levels of enacted stigma were less likely than their peers (.87) to have done so.

This finding is striking because it answers our second research question (for women) in the affirmative: certain types of stigma are related to whether an individual uses a condom. More specifically, enacted stigma (rather than felt) seems to be the form of avoidance behavior towards people with HIV/AIDS, which inhibits adolescent women's use of condoms at last sex. This is consistent with our hypothesis that those who discriminate against or avoid PLWA would be less likely to protect themselves against the disease since they see it as other people's problem.

Logistic Regression Analysis: Stigma and Ever Use of a Condom (Males)

Our third regression analysis also employed measures of demographics, knowledge of HIV/AIDS, and stigma as independent variables. Here our dependent variable of interest is whether the male respondents surveyed had ever used a condom. Our sample for this analysis was thus limited to adolescents who were sexually active, and only men were included because the Lesotho DHS only asked this question of males.

Controlling for other variables in the models, sexually active men who knew that using a condom was an effective method for preventing HIV were more than twice as likely than their peers to have ever used a condom. This finding is consistent with the female regression analysis of condom use, and again points to the value of knowledge in discouraging risky sexual behavior.

When looking at individual stigma variables, we found that those young men who said that they would not buy fresh vegetables from an HIV-positive vendor were about half (.527) as likely as their

peers to have ever used a condom. This variable is a strong example of enacted stigma, and also shows the interaction between lack of accurate information and stigma towards those with HIV/AIDS. Additionally, when combined into our Stigma Index, men who scored high on stigma in general were less likely (.836, see model 5) to have ever used condoms. Furthermore, when we separated our index into a Felt Stigma Index and Enacted Stigma Index, it was again the enacted stigma which was associated with lower rates of condom use.

The above findings parallel the analysis of stigma and women's condom use (even though it is important to keep in mind that different variables were used to measure condom use). Thus our second research question is answered in the affirmative for adolescent men as well: certain types of stigma are related to whether an individual uses a condom or not. More specifically, it is those young men with high enacted stigma (who see HIV/AIDS as other people's problem) who are the least likely to have ever used a condom.

Conclusion

In this study we set out to investigate how HIV/AIDS related stigma is associated with adolescents' sexual behaviour in Lesotho. Our preliminary findings indicate that HIV/AIDS stigma is related to condom use, but not to abstinence or the decision to refrain from sexual intercourse. Additionally, enacted stigma seems to be a stronger predictor of unsafe sex than does felt stigma. HIV/AIDS stigma also seems to affect whether or not a condom has ever been used more strongly than having used a condom during last sex, as condom use is extremely inconsistent. Thus, levels of stigma are positively related to having had sex, as well as to whether or not a sexually active individual uses a condom.

We need more information in order to better understand what underlying meanings these stigmatic attitudes reflect. To do so, further qualitative research in the context of Lesotho on stigma toward HIV infected individuals should be done. This further research should include, improving our stigma index

using principle component analysis, using "ever used condom" as a variable for both men and women, and further investigating the interaction of HIV/AIDS stigma and knowledge of HIV/AIDS. Perhaps these additional steps would help to elucidate potential links between stigma and condom use.

Nonetheless, we do acknowledge that sexual matters are difficult to capture because they are so private, and often behavior does not reflect perceptions. Similarly, stigma is a complex concept not easily lent to simple measurement. Though individual variables may not capture the multidimensionality of stigma that an individual expresses, we were able to overcome this challenge by performing our analysis using three measures: each individual measure of stigma, separate composites of felt and enacted stigma, and an index of all available stigma measures taken together. Thus, we feel confident that our conclusions about stigma's influence on sexual behavior among adolescents in Lesotho are valid.

Previous to this study there had been no published literature focusing on how HIV/AIDS related stigma translates into preventive behavior in the form of condom use. In an article by Brown (2003), stigma of HIV/AIDS is measured according to a created stigma index. However, this article fails to then do anything with the results of the stigma of HIV/AIDS, such as investigating the stigma of HIV/AIDS in relation to sexual behavior. Thus, we decided to look at how the stigma of HIV/AIDS does affect sexual behavior.

The most significant implication of our research is that stigma, especially enacted stigma, does affect condom use. Consequently, there is a profound need to eradicate stigma towards HIV/AIDS. This must be done by increasing knowledge and the availability of treatment/care. Lesotho's current door to door initiative established with the goal of enabling all citizens to get tested and know their status is exactly the type of further direction necessary to reduce stigma. The implication is such that a decrease of HIV/AIDS related stigma may lead to advances in treatment and care, especially by making antiretroviral drugs more readily available to the at risk population.

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Table 1. Descriptive Statistics Percentage Distribution of Adolescent's Characteristics and Attitudes Towards HIV/AIDS, N = 3, 315		
Characteristics	**Boys**	**Girls**
	1, 996	**1, 139**
Demographic		
Mean Age	18.57	18.14
Urban	24.56	24.93
In school	54.36	61.64
Sexual Activity		
Ever Had Sex	41.68	59.26
Mean Age at First Sex	16.96	15.9
Condom Use at first Sex	27.04	41.74
Use condom at last sex		45.9
Ever used condom	36.87	
Knowledge of HIV/AIDS Prevention		
Ever Heard of AIDS	91.04	93.34
Any Method	78.09	85.33
Abstinence	51.32	57.57
Condom Use	52.37	57.17
Being Faithful	19.24	18.76
Avoid Sharing Razor Blades	10.72	15.55
Avoid Kissing (Yes)	0.53	0.53
Avoid Mosquito Bites (Yes)	0	0.1
A healthy person can have AIDS	66.92	74.18
Can get AIDS by sharing food with an HIV Person	29.18	18.28
HIV can be transmitted to child through breastfeeding	62.2	69.67
HIV can be transmitted to child through delivery	68.66	71.23
HIV/AIDS Experience		
Knows Someone with AIDS	19.48	22.89
Ever Tested	3.95	7.78
Want to be Tested	61.65	66.18
Stigma		
Felt Stigma		
Allowed to keep HIV/AIDS secret	30.21	29.63
Willing to care for a relative with AIDS	77.72	86.04
Enacted Stigma		
Female Teacher who has HIV/AIDS can continue teaching	45.27	57.42
Male Teacher who has HIV/AIDS can continue teaching	45.03	56.93
Would buy vegetables from a vendor who has HIV/AIDS	45.81	55.02

Figure 1

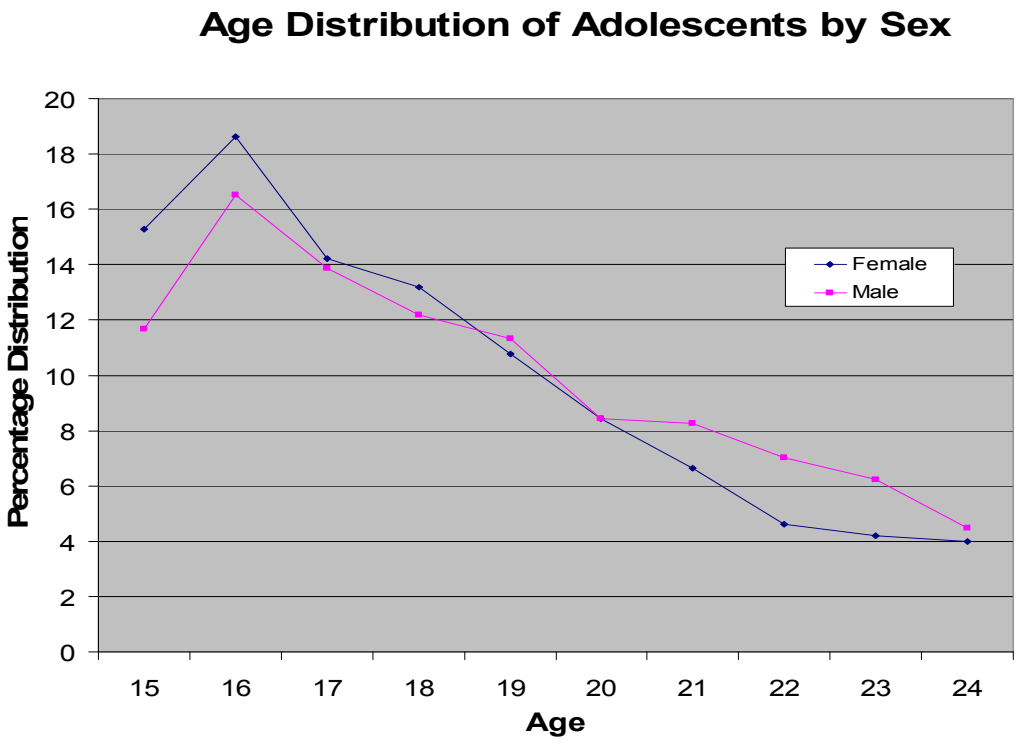
Age Distribution of Adolescents by Sex
Percentage Distribution
20
18
16
14
12
10
8
6
4
2
0
15
16
17
18
19
20
21
22
23
24
Age
Female
Male

Figure 2

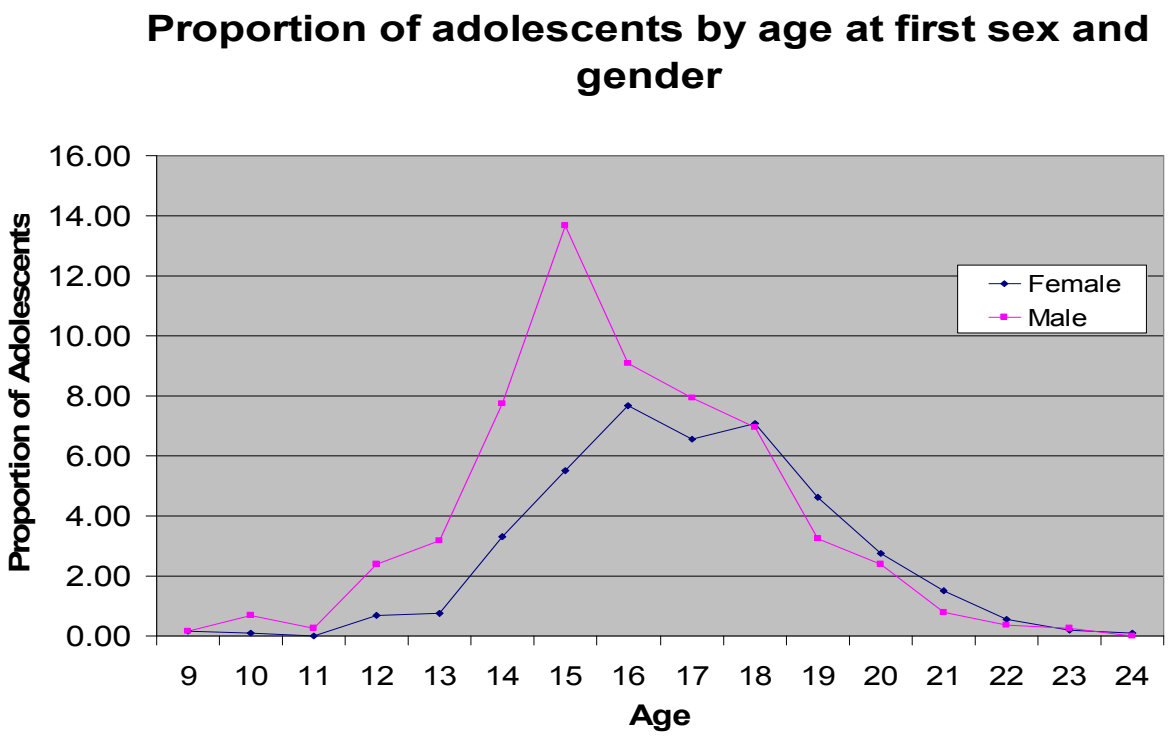
Proportion of adolescents by age at first sex and gender
Proportion of Adolescents
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Age
Female
Male

Figure 3

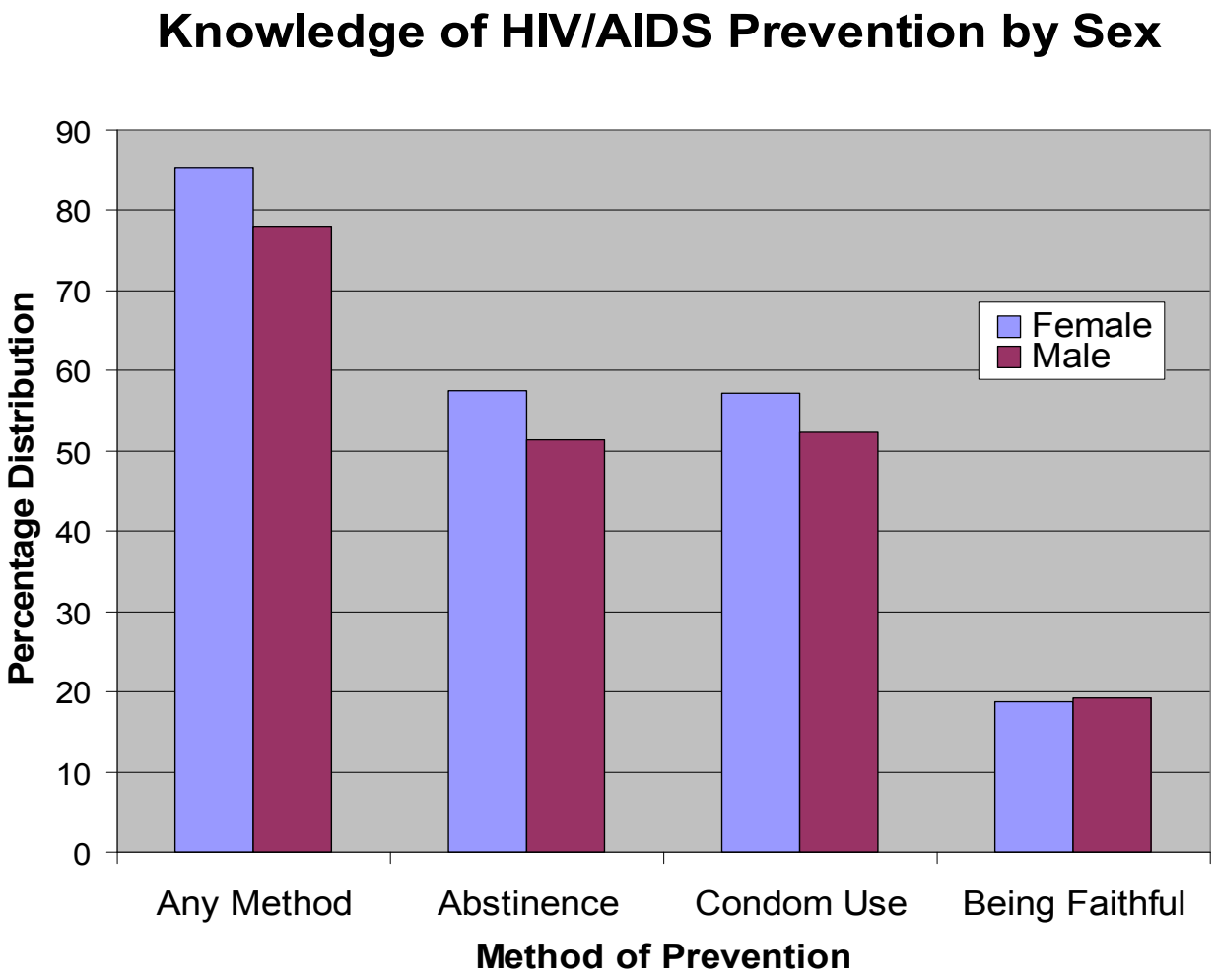
Knowledge of HIV/AIDS Prevention by Sex
Percentage Distribution
90
80
70
60
50
40
30
20
10
0
Female
Male
Any Method
Abstinence
Condom Use
Being Faithful
Method of Prevention

Figure 4

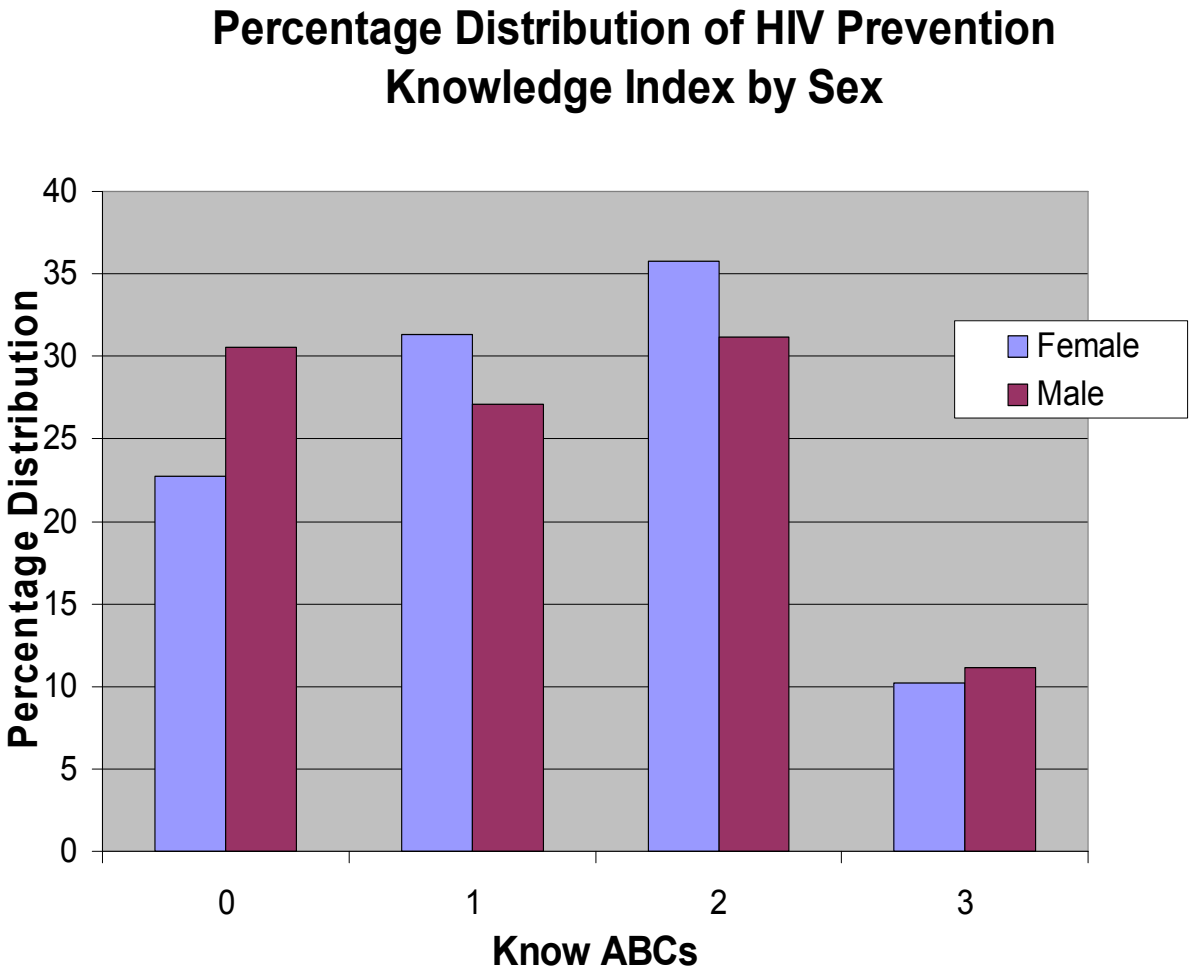
Percentage Distribution of HIV Prevention Knowledge Index by Sex
Percentage Distribution
40
35
30
25
20
15
10
5
0
0
1
2
3
Know ABCs
Female
Male

Table 2 Adolescents' Responses to HIV/AIDS Stigma Questions

Attitudes Towards People Living with AIDS	Yes	No	Don't Know
If a female teacher has the AIDS virus,	47.07	51.72	1.21
should she be allowed to continue teaching in the school?			
If a male teacher has the AIDS virus,	52.67	45.43	1.9
should she be allowed to continue teaching in the school?			
Would you buy fresh vegetables from a vendor who has AIDS virus?	51.72	47.07	1.21
If a relative of yours became sick with the virus that causes AIDS,	83.07	15.76	1.17
would you be willing to care for her or him in your own household?			
If a member of your family got infected with the virus that causes AIDS,	29.84	68.61	1.55
would you want it to remain a secret or not?			

Figure 5

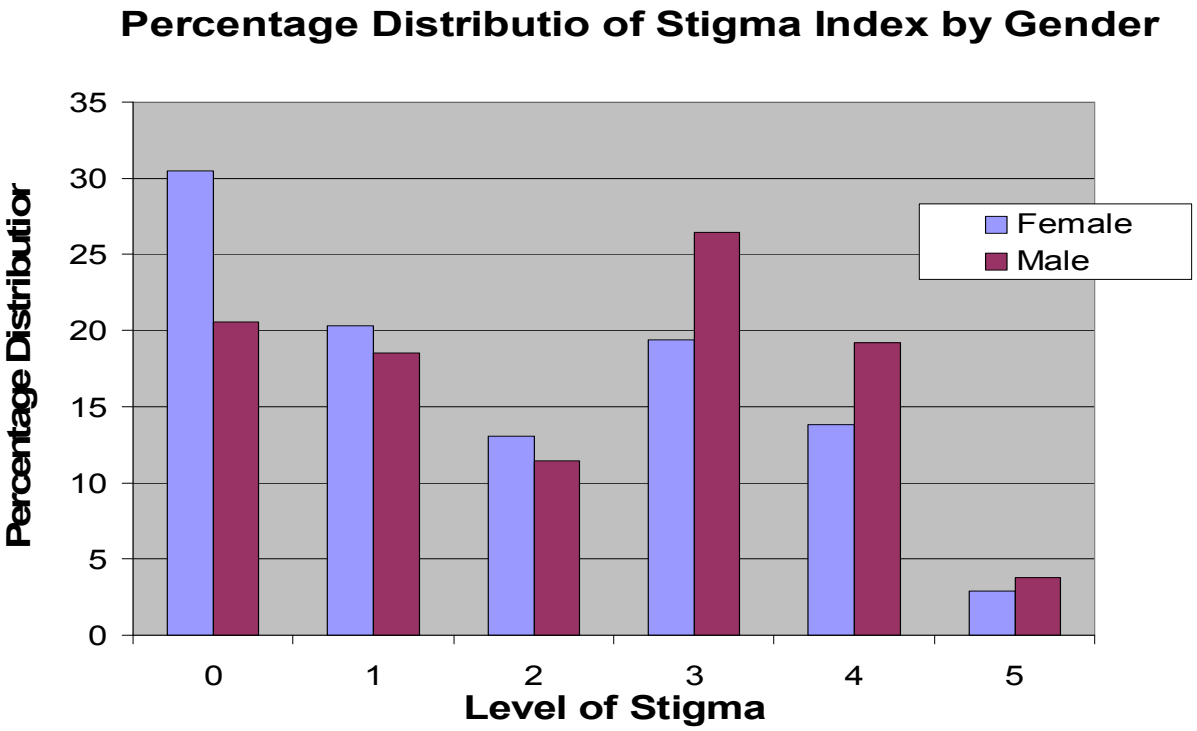
Percentage Distributio of Stigma Index by Gender
Percentage Distributior
35
30
25
20
15
10
5
0
0
1
2
3
4
5
Level of Stigma
Female
Male

Figure 6

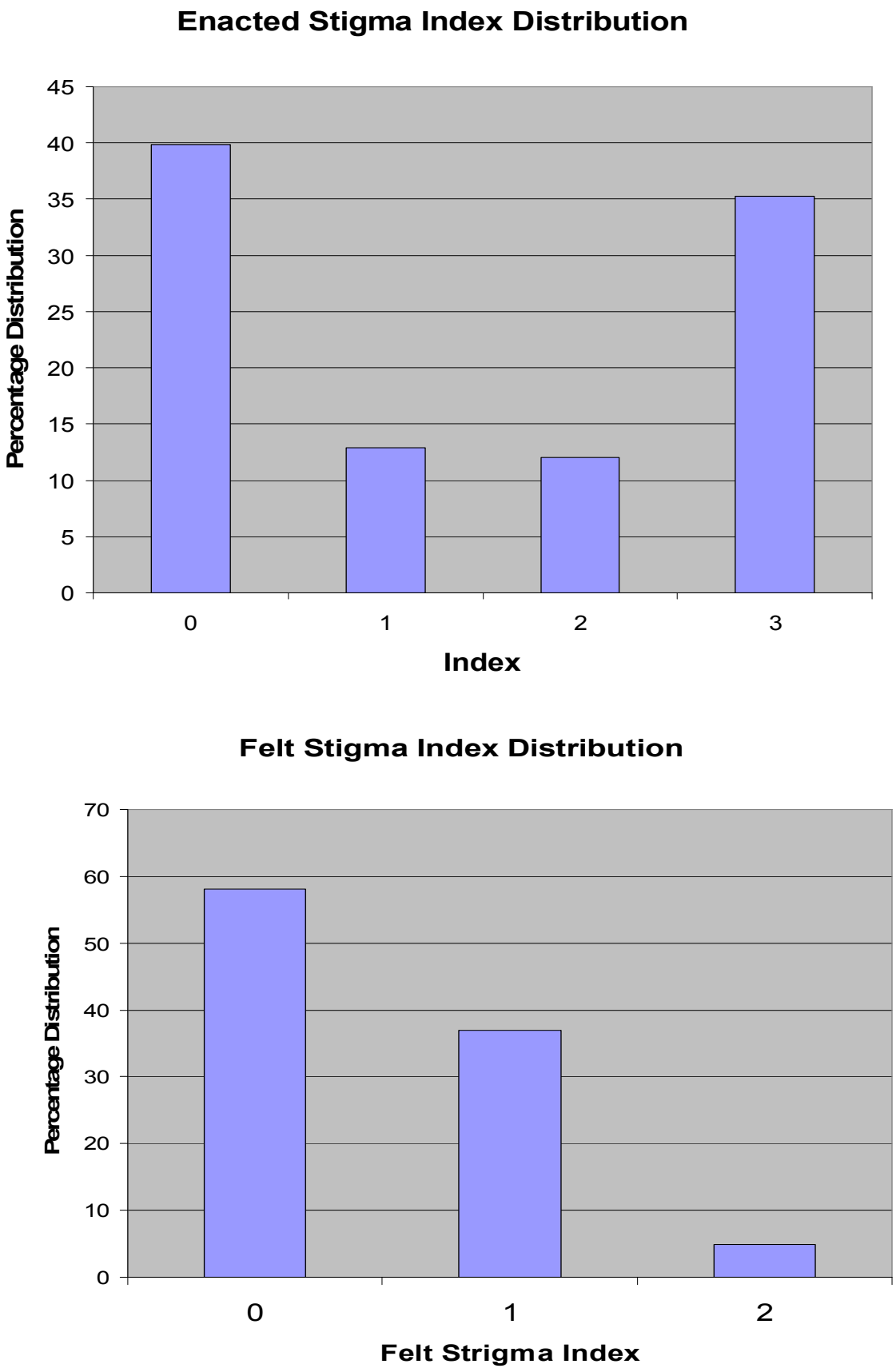
Enacted Stigma Index Distribution
Percentage Distribution
45
40
35
30
25
20
15
10
5
0
0
1
2
3
Index
Felt Stigma Index Distribution
Percentage Distribution
70
60
50
40
30
20
10
0
0
1
2
Felt Strigma Index

Table 3

	The Odd of Having Had Sex N = 2876					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.422***	1.141***	1.404***	1.402***	1.405***	1.406***
Male	2.016***	2.044***	2.276***	2.29***	2.261***	2.263***
Urban	0.994	0.961	0.8427†	0.847†	0.848†	0.854
In school	0.484***	0.471***	0.447***	0.444***	0.449***	0.45***
Heard of AIDS		1.686**				
Know Someone with AIDS			1.369**	1.366**	1.375**	1.374**
Know AIDS Prevention Methods			1.41*	1.419*	1.416*	1.415*
Know Abstinence			0.73**	0.734**	0.731**	0.732**
Know Condom Use			1.559***	1.557***	1.564***	1.566***
Know Being Faithful			1.176	1.189	1.181	1.189
HIV Female Teacher should not teach				0.850		
HIV Male Teacher should not teach				0.854		
Would not Buy From HIV Vendor				1.048		
Would not Care for HIV Relative						
AIDS should be kept Secret						
Stigma Index					1.012	
Enacted Stigma						1.025
Felt Stigma						0.967
R2	0.191	0.194	0.212	0.213	0.211	0.211
Significance Level						
*** p<.001; ** p<.01; * <.05; † p<.10						

Table 4

The Odds of Females Using Condom at Last Sex N = 1136						
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.163***	1.151***	1.132**	1.118**	1.117**	1.117***
Urban	2.358***	2.324***	2.179***	2.062***	2.092***	2.093***
In school	2.62***	2.565***	2.367***	2.211***	2.204***	2.205***
Heard of AIDS		3.854**				
Know Someone with AIDS			2.032***	1.958***	1.96***	1.959***
Know AIDS Prevention Methods			0.794	0.739	0.748	0.747
Know Abstinence			1.182	1.137	1.142	1.143
Know Condom Use			1.852**	1.797**	1.78**	1.78**
Know Being Faithful			1.327	1.307	1.312	1.314
HIV Female Teacher should not teach				0.464		
HIV Male Teacher should not teach				1.468		
Would not Buy From HIV Vendor				0.988		
Would not Care for HIV Relative				0.768		
AIDS should be kept Secret				0.901		
Stigma Index					0.864**	
Enacted Stigma						0.87*
Felt Stigma						0.858
R2	0.071	0.08	0.099	0.107	0.106	0.106
Significance Level						
*** p<.001; ** p<.01; * <.05; † p<.10						

Table 5

The Odds of Males ever Using a Condom N = 1032						
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Age	1.341***	1.331***	1.338***	1.31***	1.32***	1.321***
Urban	1.96***	1.848***	1.527*	1.339	1.375†	1.356†
In school	0.909	0.849	0.736†	0.64*	0.661*	0.66*
Heard of AIDS		2.754***				
Know Someone with AIDS			2.29***	2.184***	2.257***	2.252***
Know AIDS Prevention Methods			2.086*	1.947*	2.001*	1.997*
Know Abstinence			0.734†	0.705†	0.696*	0.693*
Know Condom Use			2.101***	2.047***	2.009***	2.011***
Know Being Faithful			1.017	0.961	0.952	0.944
HIV Female Teacher should not teach				0.292		0.822**
HIV Male Teacher should not teach				3.411		0.889
Would not Buy From HIV Vendor				0.527***		
Would not Care for HIV Relative				0.807		
AIDS should be kept Secret				0.961		
Stigma Index					0.836***	
Enacted Stigma						0.822***
Felt Stigma						0.889
R2	0.113	0.123	0.177	0.194	0.186	0.186
Significance Level						
*** p<.001; ** p<.01; * <.05; † p<.10						