

Running Head: Teachers communicating about HIV/AIDS

**The Impact of Individual Differences on the Willingness of Teachers in Mozambique to  
Communicate about HIV/AIDS in Schools and Communities**

R. Muriel Visser

Paper approved by the Health Communication Division

for presentation at the

Annual Conference of the International Communication Association on

Networking Communication Research

held at the International Congress Centre in Dresden, Germany, June 19-23, 2006

## Abstract

The purpose of this study was to understand what factors contribute to teachers' willingness to communicate about HIV/AIDS in schools and community networks. The study sought to fill the gap in the research on teachers and HIV/AIDS which has been very limited and has typically focused on cataloguing teachers' knowledge and attitudes, but without relating them directly to practice. The data were collected in Mozambique by administering surveys to a stratified sample of 606 teachers. Multinomial logistic regression was used to analyze the data.

The study found that younger teachers, teachers who know someone who is sick/has died of HIV/AIDS, and upper primary school teachers are more likely to have talked about HIV/AIDS in the past in school and in the community, and are also more likely to do so in the future. With respect to talking about HIV/AIDS in schools specifically, the study further found that a high overall perception of personal risk and high knowledge of HIV/AIDS increases willingness to talk about the disease in school contexts. Finally, high perception of personal risk also influenced the likelihood that teachers acted as spokespersons on HIV/AIDS in communities, as did consistently use of condoms in sexual relations. . The study underscores the important role that teachers can potentially play in HIV/AIDS prevention provided that personal and contextual variables that influence teachers' willingness to communicate about HIV/AIDS are taken into account in policy and practice.

## Introduction

Seventy percent of all new HIV infections take place in Africa (UNAIDS, 2003). Over the past five to seven years the focus of HIV/AIDS prevention and mitigation efforts has shifted from approaches targeted at specific risk groups to multi-sectoral plans and strategies, which seek to involve a wide variety of government and non-governmental agencies (Coombe, 2002). The rationale for a multi-sectoral approach arises from the recognition that HIV/AIDS requires an integrated response to break the cycle of poverty and gender inequality that is at the center of its spread (UNESCO, 2002).

For various reasons, education and teachers in particular figure prominently in this new approach (Coombe, 2002; UNESCO 2002). A key argument is that children between the ages of 5 and 14 have the lowest HIV prevalence rate of all population age groups, since they did not get infected at birth and are generally not yet sexually active. This means that focusing on forming/changing the attitudes, skills and behavior of these children can have a potential pay-off. Children in this age group are still in the formative stages of their lives, which means that their health and social behavior can still be influenced (UNAIDS, 1997).

School-age children thus constitute the “window of hope” (World Bank, 2002) for many countries, and the education system provides a privileged opportunity for working with this age group since, in many of the countries, most children spend at least a few years of their lives in school. The focus on the education system also makes sense from a cost-benefit perspective. There is ample evidence that: “a good basic education ranks among the most effective – and cost-effective – means of HIV/AIDS prevention” (World Bank, 2002, p. xv), because there is a strong inverse relationship between vulnerability to diseases such as HIV, malaria and others, and level of education (Vandemoortele and Delamonica, 2000). Education is also necessary to combat the culture of silence, the stigmatization, and the discrimination that is associated with HIV/AIDS (UNESCO 2002). From a gender specific perspective, there is an additional benefit, since research has shown that girls who stay in school longer will start sexual activity later, and are more likely to require male partners to use condoms (World Bank, 2002).

The responsibility for promoting change through education falls on the shoulders of teachers. They are expected to contribute to prevention by providing knowledge, promoting attitude development and change, ensuring that children develop skills that will allow them to be competent and assertive in

managing relationships but also in life in general. Teachers are an important part of social networks and a reference for many young people (UNESCO, 2002).

The task for teachers is, however, daunting from various perspectives. Teachers often lack the curricular time and orientation to adequately address the issue within schools (Kelly, 2002). In addition, studies have also shown that most teachers routinely do not even get the information, training or support that they need (Malambo, 2000; Kelly, 2003; Action Aid 2003). Teachers often rely on rote learning (Kelly 2003; UNESCO 2002; Action Aid 2003) without ensuring that students have a true understanding of the factors that affect transmission of the disease and which still leaves them relatively unequipped to face the social, cultural, and economic factors and pressure that contribute to risk of infection . Most communities and societies do not agree with teaching children about HIV/AIDS since sex is a taboo topic that should not be discussed at any cost. Kelly notes that although educators are usually aware of the knowledge and information gap that exists between the home and the school, they are unable to make provisions for it (Kelly, 2003). At the same time, the nature of the disease is such that open discussion is tremendously important (Kelly, 2003; Macintyre, Brown, Sosler, 2001) since it is the silence about the disease and its effects that facilitates its spread and leads to stigmatization. Education about HIV/AIDS should therefore not be seen as an “optional extra ... (but as) ...a matter of life and death” (Kelly, 2002, p. 11).

An additional complicating factor is that teachers are feeling the strain of the pandemic too and are being disproportionately affected by it. Because teachers are highly mobile they are more vulnerable to becoming infected themselves (Coombe & Kelly, 2001).

Yet, governments in many of the affected countries generally continue to ignore or fail to address the need to provide teachers with support (Coombe, 2002) even though there is evidence that such training can contribute to better understanding and more positive attitudes toward that disease by teachers (Chifunyse, Benoy, Mukiibi, 2002). So, as Coombe (2002) notes: “it is assumed that teachers will be at the HIV/AIDS battlefield, but they are generally unarmed” (2002, p.30). However, the key role that has been assigned to teachers makes it important to establish what factors influence their effectiveness as communicators about HIV/AIDS. This study seeks to identify some of those factors by focusing specifically at communication by teachers in schools and communities.

## Literature review

Most of the research on HIV/AIDS education in schools has focused on assessing the change in the target group (i.e. the children in the schools) in terms of knowledge, attitudes, and intended or actual behavior (cf. Horizons, 2001; Venier, Ross & Akande, 1997; Nwokocha & Nwakoby, 2002; Brook, 1999, Sikand, Fisher & Friedman, 1996, Davis, Noel, Chan & Wing, 1998; Mkumba & Edwards, 1992). Far fewer studies have specifically and systematically examined: 1) teachers' knowledge, attitudes and behavior with regard to HIV/AIDS education; 2) how teachers are juggling this complicated task of contributing towards the fight against HIV and AIDS in their schools and communities; and 3) how they are perceiving the impact of the disease (or how the disease will have an impact on them). As is noted in a recent report by Action Aid: "very limited research has been devoted to the implementation of HIV/AIDS in the classroom" (2003, p. 31), and most of what is known about what happens in school is based on anecdotal evidence (Kelly, 2000). There appears to be an implicit assumption that once teachers are given the right training and support (curriculum and materials), they will necessarily become effective vehicles for contributing to promoting the envisioned change in the "window of hope" target group.

Yet there is evidence from the limited research that has looked at teachers in the context of HIV/AIDS that the picture is much more complex and that there are indeed factors that influence teachers' capacity and willingness to address this disease. Thus a study of science teacher's intentions to teach about HIV/AIDS in the United States (Lin & Wilson, 1998) found that teachers' attitudes toward teaching about HIV/AIDS was the most significant of various factors examined in predicting intentions to approach this subject with their students (other important predictors were teachers' knowledge of HIV/AIDS, more positive attitudes towards teaching about HIV/AIDS, less negative social influence from principals and other managers, and availability of resources). A qualitative study in India (Verma, Surender, and Guruswamy, 1997) which examined children and teachers' perceptions of AIDS and sex found a similar relationship between science teachers and less inhibition in talking about HIV and AIDS. Two separate qualitative studies by Chiwela and Mwape (1999) and Molambwe (2000) of Zambian teachers and HIV/AIDS also clearly reveal that beliefs and attitudes play a key role. Their research showed that some teachers believe that young people who are exposed to sexual information will be more likely to engage in sexually permissive behavior later on in life and that these teachers thus argued against providing this information. A study in Massachusetts, United States, found a direct relationship between teachers' knowledge of HIV/AIDS and positive or supportive attitudes toward HIV, and also

found that female teachers hold more positive attitudes toward teaching about HIV/AIDS than male teachers (Dawson et al., 2001). A recent study by Action Aid (2003) sheds further light on the difficulties of communicating about HIV/AIDS in schools in Kenya and India. This study established that many teachers engage in selective teaching of HIV/AIDS topics, leaving out sensitive and sexually explicit material and presenting the content in an overly-scientific manner. Selective teaching appeared to be a particular problem in rural areas with teachers were “teaching some lessons on HIV, but exercising their own judgment in which messages should be taught or not” (p. 32). The report highlights as possible reasons for this situation external factors (such as lack of training, lack of confidence and responsibility, gender issues, low priority in the curriculum to these lessons, and the wider crises in education). Issues specific to teachers individual characteristics (beliefs, knowledge, etc.) were not examined. The study concludes that this selective/abstract teaching is contributing to the perception that HIV/AIDS is linked to immorality and perpetuating the belief that HIV/AIDS is about “them, not us” (Action Aid, 2003, p.7).

These findings collectively provide a snapshot of the stumbling blocks which teachers both in the developed and developing world are facing. At the same time the fact that so few studies have specifically focused on teachers points to a discrepancy between the level of responsibility that is being given to teachers and the amount of research that is being devoted to teachers as key players in the fight against HIV and AIDS. The studies also highlight that there has been little consideration of how individual difference variables may impact on teachers’ approach to dealing with this pandemic. HIV/AIDS related studies of other population groups however, have shown that these do play a key role. Thus a consistent link that has been found in studies between the *level of knowledge of HIV/AIDS* and sexual behavior. People with a higher level of knowledge are more likely to abstain from high-risk sexual activity and to consistently use a condom (Magnani, 2002, Volk 2001). A second important dimension appears to be the link between level of sexual activity and school attendance plus knowledge of HIV. Those who attended school to a later age are more likely to initiate sex later and to use a condom than those who dropped out (Magnani, 2002, Global Coalition for Education, 2005). There is also some evidence that the level of direct individual confrontation with the disease may be important. The results of a study by Simon-Meyer and Odallo (2002), in South Africa, highlighted the importance of involving people with HIV/AIDS in creating awareness in the workplace since it makes others more willing to discuss the problem. Similarly, Macintyre et al. (2001) found that *knowing someone who died of AIDS* was consistently associated with lower levels of denial and a more consistent pattern of condom use among men in three African

countries. A study of Israeli adolescents, on the other hand, found that high levels of denial and low perception of personal relevance were associated with irregular condom use by adolescents (Ben-Zur, Breznitz, Wardi, & Blerzon, 2000). There is also some support also for a relationship between *fatalism* and HIV/AIDS attitude and knowledge variables and subsequent behavior. This link has not been very consistently studied, and should be seen as an open area for further research, but the limited studies done in this field do indicate that that fatalism can be strongly associated with negative attitudes towards the disease and with negative perceptions of other groups such as people living with HIV/AIDS (Ramirez, Crano, Quist, Burgoon, Alvaro and Grandpre, 2002). *Mass media exposure* has also been linked to behavioral intent and behavior (Karlyn, 2001; MacIntyre et al. 2001). MacIntyre et al. in their study of condom use among men in Uganda, Kenya and Zambia, found that men in Kenya and Uganda who listened to the radio on a daily basis were significantly more likely to report behavior change than those who did not listen (this relationship was not significant, however, for Zambia). Karlyn (2001) found a similar relationship in a study of radio exposure in Mozambique.

#### Purpose and Hypotheses

Collectively these studies indicate that a number of individual difference variables impact on behavior and behavioral intent in various dimensions of HIV/AIDS. This study seeks to build on those findings and to identify to what extent individual factors may contribute to teachers' willingness to communicate about HIV/AIDS and has the following three hypotheses:

**Hypothesis 1:** Younger teachers and female teachers will be more willing to communicate about HIV/AIDS in school and community settings.

**Hypothesis 2:** Controlling for age and sex, teachers with a high level of personal experience with HIV/AIDS and a high level of knowledge about the disease will be more willing to communicate about HIV/AIDS in school and community settings.

**Hypothesis 3:** Controlling for age and sex, teachers with a personal conviction that they can do more to address the threat of HIV/AIDS and teachers who consistently protect themselves against HIV/AIDS will be more willing to communicate about HIV/AIDS in school and community settings.

**Hypothesis 4:** Controlling for age and sex, teachers lecturing in upper primary (Grades 6 and 7) and secondary (Grades 8 through 12) will be more willing to communicate about HIV/AIDS in school and community settings than teachers in lower primary (Grades 1 through 5).

*Predicted and Predictor Variables*

During the focus groups conducted in the pilot phase of the study it became clear that the predicted variable could refer to both past and future behavior in schools and in communities. Thus for the purpose of this study the predicted variable was defined as *teachers' willingness to communicate about HIV/AIDS in the educational context (school and community)*. This predicted variable was operationalized to refer to the extent to which teachers have in the past month, or intend in the coming month, to address HIV/AIDS in the educational context. In operationalizing "willingness to communicate about HIV/AIDS" teachers were asked: a) how often they intended to talk about HIV/AIDS with their students in the coming four weeks; and b) how often in the last four weeks (on a scale covering "Never", "One time", "Two times", "Three times", "Four times" and "Five times or more") they had talked about HIV/AIDS "before class", "during class", "informally in school", "informally in the community", and "during mobilization/awareness activities in the community". These predictor measures were all component indices for which alpha reliabilities are not relevant. The item to total correlations between the items on the past school behavior ranged from 0.34 to 0.41 and on the items for past community behavior from 0.30 to 0.38.

For data analysis, teachers' responses concerning future intent to communicate about HIV/AIDS were collapsed into a measure with three levels – labeled "future behavior – three levels" - contrasting teachers who responded "never" (and who were given the designation of "no behavior"), with those who indicated they would communicate between one and three times (labeled as having "limited<sup>1</sup> behavioral consistency") and with those who indicated they would communicate four or more times (labeled "high behavioral consistency").

Two other measures were created concerning past behavior in school and in the community respectively. With respect to community behavior respondents were coded as exhibiting "no behavior"

---

<sup>1</sup> Limited behavior in this case can imply different situations. It may mean that a respondent scores relatively high on one of the items that measures the behavior but very low on one or more other items. It may also mean a moderate level of behavior on the different items. In view of this "limited behavior" can also be interpreted as mixed behavior.



when they responded that they had not talked on one or on both behaviors (informally or at awareness campaigns). The category of “limited behavioral consistency” was assigned to teachers who indicated having talked one or two times on both or either type of occasion. Finally, “high behavioral consistency” with regard to past community behavior if s/he indicated having talked about HIV/AIDS three or more times either “informally in the community” or “during mobilization/awareness activities in the community”. A similar procedure was used for school behavior as can be seen from the summary table below.

**Table 1: Operationalization the Predictor Measures**

Variable/ behavior	“No behavior”	“Limited behavioral consistency”	“High behavioral consistency”
Future behavior – three levels	“Zero” intention to talk about HIV/AIDS in the coming four weeks	Intention to talk between one and three times in the next four weeks	Intention to talk four or more times in the next four weeks
Past community behavior – three levels	Did not talk informally in the community or at awareness campaigns in the past four weeks	Talked one or two times informally in the community or during mobilization/awareness activities in the community in the past four weeks	Talked three or more times informally in the community or during mobilization/awareness activities in the community in the past four weeks
Past social behavior – three levels	Did not talk in class or informally or before class in the past four weeks	Talked one or two times informally in school or before class and one time in class in the past four weeks	Talked three or more times informally in school or before class and two or more times in class in the past four weeks

The predicted measures were age, sex, personal experience with HIV/AIDS, knowledge, condom use and personal risk. For age (mean age: 30.91, standard deviation: 8.89) three age groups were created - 16 through 24, 25 through 35 and 36 and over (mean age: 30.91, standard deviation: 8.89). A single question asked teachers to indicate their sex as being either “male” or “female”.

For personal experience with HIV/AIDS a more discriminating measure than has been used in other studies of personal behavior (c.f. Macintyre, Brown, & Sosler, 2001) where a single question asking whether respondents knew someone who was sick or had died of HIV/AIDS was used. A set of five questions was developed to measure this variable by asking respondents to indicate whether they: (a) “personally know someone who has died of AIDS”; (b) “have any sick family members living in the same house”; (c) “have any family that has died of AIDS”; (d) “have one or more friends who are either HIV positive or may have died of AIDS”; and (e) know one or more teachers who are HIV positive or have died of AIDS. The response set for these items was (1) “yes”, and (2) “no”. The responses were summed to create an overall component index of personal experience with HIV/AIDS (range of response was from 0 to 4, with a mean of 0.92 and a standard deviation of 1.02). Based on summed responses, teachers

were subsequently categorized into three groups of reflecting those that knew no person who was sick or had died of HIV/AIDS (labeled as “no experience”), those that knew one person who was either sick or had died (labeled “some experience”), and those who knew two or more people who were sick or had died of HIV/AIDS (labeled “substantial experience”).

Items for HIV/AIDS knowledge were developed by translating, pilot testing and shortening Koch & Singers' (1998) HIV-Knowledge and Attitude Scale for Teachers, from a 35 item scale to a 10-item scale. In addition, four items reflecting local myths and misconceptions – which were generated from focus groups during the pilot phase – were also included. These local misconceptions were associated with condoms (i.e. that condoms contain various diseases and that condoms spread HIV/AIDS), with the belief that it is possible to identify whether a person has HIV/AIDS simply by looking at them, and the belief that HIV/AIDS can be transmitted by sneezing and coughing. All items were tested and found to be reliable measures during the pilot phase of the study (alpha reliability 0.7). The responses resulted in a summed index with a minimum score of zero and a maximum score of 14. Using percentiles three knowledge groups of equal size were created for the purpose of subsequent statistical analysis. In this manner, the first group included those 33.3% of the respondents who scored lowest on the HIV/AIDS knowledge scale and who were coded as having a “relatively low level of knowledge”. The second group (including 33.3% of the respondents in the middle range of the knowledge scale) was coded as having a “moderate level of knowledge”. Finally, the highest group included the 33.3% of the respondents who scored highest on the knowledge scale and who were labeled as having a “high level of knowledge”.

Personal conviction about HIV/AIDS referred to whether teachers expressed the belief that it is possible to do more to protect themselves against HIV/AIDS. A single question was formulated asking teachers to indicate their level of agreement with the following statement: “I believe that I personally could do more to reduce my chances of being contaminated by HIV?” The response set to this question was: (1) “strongly agree”; (2) “agree”; (3) “not sure”, (4) “disagree”, (5) “strongly disagree”.

Personal conviction about HIV/AIDS referred to whether teachers expressed the belief that it is possible to do more to protect themselves against HIV/AIDS. A single question was formulated asking teachers to indicate their level of agreement with the following statement: “I believe that I personally could do more to reduce my chances of being contaminated by HIV?” The response set to this question was: (1) “strongly agree”; (2) “agree”; (3) “not sure”, (4) “disagree”, (5) “strongly disagree”. For the purpose

of analysis the responses on this question were collapsed to contrast respondents who responded “strongly agree” and “agree” with those in the other three categories.

Personal approach to HIV/AIDS was interpreted as referring to the respondent’s use of preventive means to avoid being contaminated by the HIV virus. Since transmission via sexual intercourse is by far the most important form of contamination in Africa a single question was formulated asking teachers to indicate their current use of condoms (with responses of: (1)“always”; (2)“frequently but not always”; (3)“sometimes depending on the situation”, (4)“never”, (5)“I don’t need to because I trust my partner”, and (6)“I am abstaining from having sex”). For the purpose of analysis the responses on this question were collapsed to contrast respondents who always use condoms with the remaining categories. In this manner two categories were obtained, corresponding to “always users” and “variable level of condom use”. Respondents who reported they were abstaining were coded as system missing<sup>2</sup>.

One question was formulated to ask teachers what level they taught. The following response options were available on this question,: “don’t teach” (for the future teachers), “EP1” (Grades 1 to 5 known as lower primary level), “EP2” (Grades 6 and 7 known as upper primary level), “ESG (Grades 8 to 12 known as secondary level) and “other level, please specify”. For the purpose of data analysis, three groups were created by recoding the “other” category as missing, and keeping EP1 and EP2 and ESG as three distinct categories<sup>3</sup>.

### Methodology

Data were collected by administering a questionnaire to primary and secondary school teachers. All data were collected in the Southern Province of Gaza, in Mozambique. Participating schools were selected through a process of cluster sampling. Schools in Mozambique are divided into Zones of Pedagogical Influence (*Zonas de Influência Pedagógica* or ZIPs) with each ZIP comprising between 4-6 schools. Using this principle, in each district three ZIPs were randomly selected (districts have between 8 and 15 ZIPs) and all of the teachers in each ZIP were requested to participate in the study by filling out the questionnaire. Because ZIPs are different sizes, between 18 and 50 teachers participated from each

---

<sup>2</sup> During the data collection it became clear that some of the respondents who indicated they were abstaining from sex were in fact nuns. Given the small number teachers in this category, and the fact that some teachers who were nuns, it was subsequently decided to eliminate this category from the data analysis.

<sup>3</sup> The rationale for this classification relates back to the hypothesis which states that teachers in the lower primary grades will have a lower level of willingness to communicate about HIV/AIDS in the educational context that teachers in upper primary and secondary. It is commonly thought that teachers in the lower grades will not discuss HIV/AIDS because the children are too young.

of the ZIPs. Of the 441 primary and secondary school teachers who were selected through the process of cluster sampling, 406 participated completed the survey (corresponding to a response rate of 92%). An additional 210 primary and secondary school teachers were randomly selected from the teacher training college of Inhamissa in the provincial capital, Xai-Xai (which has students from all over the province). Sampling using a list of students and a table of random numbers was used to select participants from the teacher training college. The response rate at this location was 95% (equivalent to 200 teachers).

Primary and secondary school teachers in the five participating districts were asked to convene in groups at previously selected locations. Sessions took place in primary or secondary school classrooms where teachers/students were seated at school benches either individually or in pairs. Participation in the data collection was voluntary and no specific monetary incentive for participation was given. Subjects were told that the study aimed at gaining an understanding of factors that influence teachers' willingness to communicate about HIV/AIDS in the educational setting and that their answers would be kept strictly confidential. Subjects were then asked to sign a consent form which was kept separate from the questionnaire, and to return this at the start of the session. Participants were told that they could withdraw from participation at any time without any penalty or consequence.

#### Data Analysis

Multinomial logistic regression was used to examine the relationship between the proposed predictors and the past and future communication behavior of teachers with respect to HIV/AIDS. Multinomial logistic regression is used frequently in health and health related research and is similar to binary logistic regression but allows for the existence of a predicted measure with more than two levels of response, which was the case for all present analysis. Similar to other regression techniques multinomial regression makes it possible to consider multiple predictor variables simultaneously. Multinomial logistic regression breaks the regression up into a series of binary regressions and compares each group to a baseline group. One advantage of multinomial regression is that it does not require the assumptions associated with many other tests (such as normality and homogeneity of variance) to be met. It is therefore particularly suited to the present situation where the data are highly skewed and have mixed reliability levels. The technique does assume, however, the existence of well populated tables, an adequate sample size, the absence of significant outliers, and independence of observations, all of which were met in the present study.

For the purpose of conducting the regression each predictor measure was recoded into three levels based on percentile values. Respondents in the first group were considered to be “relatively low” on the measure, respondents in the second groups were considered to be “relatively moderate” and respondents in the last category were classified as “relatively high”. The data was ordinal in nature with low unstandardized utility, with mixed reliability, and highly skewed. Various attempts were made at transformations but the data were not responsive.

In all hypothesis tests, the reference category for the dependent variables was “no behavior”. For each of the three predictor measures the analyses consider the contrast between “no behavior”, “limited behavioral consistency”, and “high behavioral consistency”. Therefore, the results of three multinomial regressions are discussed for each of the hypotheses in this study. For each multinomial regression odds ratios (with the accompanying p-values, standard error and confidence intervals) of the relationship are reported. Odds ratios indicate for each relationship how much more likely it is that a particular characteristic/trait is present among one group of people as compared to the baseline group.

## Results

### *Characteristics of the Respondents*

A total of 606 current or future primary and secondary school teachers for Grades one through twelve<sup>4</sup> in the province of Gaza in southern Mozambique participated in this study. Of this total 46.8% (corresponding to 271 teachers) were female. Teachers ranged in age from a very young 16 years to 57 years of age. Just over one third of the teachers (35.5%) came from urban areas, a quarter (24.9%) from semi-urban areas, and the remaining teachers were residing in rural areas.

The large majority of teachers (415 in total or 68.8%) who participated in the study were primary school teachers with the responsibility of lecturing Grades one through seven. An additional 109 teachers (a further 18%) were still in the process of completing their professional training as primary school teachers. The remaining teachers (13.2%) were secondary school teachers lecturing Grades 8 through 12.

Well over one third of the teachers (39.8%) had no professional qualifications, in other words, they were recruited straight out of school to become teachers without receiving a formal teacher training

---

<sup>4</sup> The education system in Mozambique consists of grades 1-5 (known as Ensino Primário 1), 6 and 7 (Ensino Primário 2), grades 8-10 (Ensino Secundário Geral), grades 11-12 (Ensino Pré-Universitário), and university degrees (Bachelors and Masters Level).

degree or were still completing their degree at the time the study took place. Just over one quarter (25.9%) had completed seventh Grade and had done three years of teacher training at a teacher training college. 51 teachers (8.7%) held the equivalent of higher education degrees. The remaining teachers had academic qualifications ranging from Grade 7 to Grade 10 with between one to two years of professional training.

Teaching experience varied greatly among the teachers. Approximately one third of the teachers (33.8%) had very little professional experience, i.e. two years or less. A further one third had between 3 and 8 years of experience, and the remaining teachers had anywhere between 9 and 37 years of teaching experience.

In terms of HIV/AIDS training, less than one third (28.1%) reported receiving some form of HIV training in the past two years. The reported duration of these HIV/AIDS courses ranged from several hours to a week. Reported participation in HIV/AIDS courses was markedly lower among future and current primary school teachers (25.7% and 26.6% respectively) than for the group of secondary school teachers (38.9%).

#### *Hypothesis 1: Using Sex and Age to Predict Willingness to Communicate about HIV/AIDS*

The first hypothesis argued that younger teachers and female teachers would be more willing to address HIV/AIDS than their older and male counterparts, based on preliminary indications from the focus group discussions in the pilot phase of the study, and on indications from studies in the United States that female teachers had a more positive attitude toward discussing HIV/AIDS (c.f. Dawson et al., 2001). Teachers were asked to indicate how many times they intended to talk about HIV/AIDS in the coming month, and how many times they had done so in the past month for various behaviors related to talking about HIV/AIDS in school and in the community. The results for the multinomial regression analyses are presented below for future intentions, past school behavior, and past community behavior, contrasting those teachers that have high consistent intentions and those that have limited intentions with those that have no intentions.

The analysis found that for teachers **future intentions** (table 2a) the overall model is statistically significant (log likelihood 54.740,  $X^2 = 30.315$ ,  $df = 6$ ,  $p \leq 0.001$ ). When contrasting high behavioral intent with no behavior, teachers in the youngest age group are 4.5 times (95% C. I., ORs = 2.4 -8.2,  $p \leq$

0.001) more likely, and teachers in the second age group are 2.6 times more likely (95% C. I., ORs = 1.6 – 4.3,  $p \leq 0.001$ ) to have high consistent intentions to talk about HIV/AIDS.

**Table 2a: MLR Analysis: Using Sex and Age to Predict Teachers’ Future Intentions to Talk About HIV/AIDS**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	85.055			
Final	54.740	30.315	6	***

<sup>a</sup>. \*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , \*\*\*  $p \leq 0.001$

Intention (3 Levels) to Talk About HIV/AIDS in the Coming Month		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent intentions	Intercept	1				
	Female	1		.999	.638	1.566
	Male	0				
	Age 25 and under	1	***	4.534	2.495	8.241
	Age 26 - 35	1	***	2.589	1.555	4.311
	Age over 35	0				
Limited intentions	Intercept	1				
	Female	1		1.035	.645	1.662
	Male	0				
	Age 25 and under	1	***	2.924	1.562	5.473
	Age 26 - 35	1	*	1.768	1.037	3.013
	Age over 35	0				

<sup>a</sup>. The reference category is: No, do not intend to talk

Similarly, age is also a statistically significant predictor when comparing those with limited intentions with those that do not intend to talk about HIV/AIDS. These odds ratios are however smaller. Contrary to what was hypothesized sex was not a statistically significant predictor of future intentions.

The second type of behavior examined was **past behavior in schools** (table 2b). Teachers were asked to indicate whether they had talked about HIV/AIDS in the classroom, before class with their students, and on other informal occasions in school in the past month. The overall model using sex and age to predict past behavior in school is statistically significant (log likelihood 53.789,  $X^2 = 17.935$ ,  $df = 6$ ,  $p \leq 0.01$ , respectively). When contrasting teachers with high consistent past school behavior with those who declared they had not talked about HIV/AIDS in school, teachers 25 and under are 2.7 times ( $p \leq 0.001$ : 95% C. I., ORs = 1.6 – 4.7) more likely to have talked about HIV/AIDS. Age is also a statistically significant predictor when comparing those with limited past school behavior with those that did not talk about HIV/AIDS in school but the odds ratios are smaller. Again, respondents’ sex is not a statistically significant predictor of talking about HIV/AIDS in the school.

**Table 2b: Multinomial Logistic Regression Analysis: Using Sex and Age to Predict Teachers' Talking About HIV/AIDS in School in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	71.725			
Final	53.789	17.935	6	**

a. \*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , \*\*\*  $p \leq 0.001$

Talked about HIV/AIDS in School in Past Month (3 Levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.938	.592	1.485
	Male	0				
	Age 25 and under	1	***	2.673	1.517	4.710
	Age 26 - 35	1		1.148	.668	1.976
	Age over 35	0				
Limited behavior	Intercept	1				
	Female	1		1.311	.843	2.038
	Male	0				
	Age 25 and under	1	**	2.199	1.242	3.893
	Age 26 - 35	1		1.314	.787	2.193
	Age over 35	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Talking about HIV/AIDS in the community** (table 2c) in the past month was the third predicted measure in this study. Teachers were asked to indicate how many times in the past month they had talked about HIV/AIDS informally in the community and at community awareness raising events. The overall model is statistically significant (log likelihood 58.421,  $X^2 = 18.551$ ,  $df = 6$ ,  $p \leq 0.01$ ) and the pattern is similar to that found for the earlier predicted variables. Thus comparing teachers with high consistent behavior against those with no behavior in the community, teachers in the two youngest age groups are 2.6 ( $p \leq 0.01$ : 95% C. I., ORs = 1.4 – 5.0) and 2.1 times ( $p \leq 0.01$ : 95% C. I., ORs = 1.2 – 3.9) more likely, respectively, to have talked about HIV/AIDS in the community. Once again, respondents' sex is not a significant predictor of past community behavior about HIV/AIDS.

In summary, the first hypothesis was partially supported. For this hypothesis the results highlight the consistent importance of age (controlling for sex) as a predictor of willingness to talk about HIV/AIDS, with younger teachers being more willing to talk about HIV/AIDS across all three behaviors. Sex (controlling for age), on the other hand, was not a predictor of any of the three behaviors. This finding is contrary to the hypothesis that female teachers (Dawson et al., 2001) would have a more positive attitude than male teachers to communicate about HIV/AIDS



**Table 2c: MLR Analysis: Using Sex and Age to Predict Teachers' Talking About HIV/AIDS in Community in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	76.972			
Final	58.421	18.551	6	**

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked about HIV/AIDS in Community in Past Month (3 Levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	*	.548	.329	.912
	Male	0				
	Age 25 and under	1	**	2.632	1.381	5.019
	Age 26 - 35	1	**	2.151	1.181	3.920
	Age over 35	0				
Limited behavior	Intercept	1				
	Female	1		1.014	.658	1.564
	Male	0				
	Age 25 and under	1	*	1.719	1.001	2.952
	Age 26 - 35	1		1.097	.661	1.820
	Age over 35	0				

a. The reference category is: No, did not talk about HIV/AIDS

*Hypothesis 2: Using Personal Experience and Knowledge to Predict Willingness to Communicate about HIV/AIDS*

Hypothesis 2 contended that teachers with a high level of knowledge of HIV/AIDS and teachers who had a close personal experience with the disease would be more willing to talk about HIV/AIDS. Teachers' knowledge levels were determined on the basis of their score on a HIV/AIDS knowledge scale. In addition, teachers' personal experience with HIV/AIDS was determined on the basis of the number of people (family, friends, and colleagues) that they reported knowing who were either sick or had died of HIV/AIDS. Tables 3a, 3b and 3c for the statistical analysis of this hypothesis can be found in Annex 2.

The model using personal experience and knowledge to predict **teachers' future intentions** (table 3a in Annex 2) to talk about HIV/AIDS was statistically significant (log likelihood 307.518,  $\chi^2 = 67.580$ ,  $df = 14$ ,  $p \leq 0.001$ ). Controlling for age, sex and knowledge of HIV/AIDS, when contrasting those who intended to talk about HIV/AIDS with those who had no intention teachers who have substantial experience with HIV/AIDS, and those that have moderate experience are more likely to intend to talk about HIV/AIDS - 4.6 times ( $p \leq 0.001$ : 95% C. I., ORs = 2.6 – 8.4) for teachers with substantial experience and 2.2 times ( $p \leq 0.01$ : 95% C. I., ORs = 1.2 – 3.8) for those with moderate experience. Similarly personal experience – although with smaller odds ratios - is also a statistically significant

predictor when comparing teachers with limited intentions with those who do not intend to talk about HIV/AIDS. Contrary to what was hypothesized, knowledge of HIV/AIDS failed to emerge as a statistically significant predictor of intention to talk about HIV/AIDS in the coming month.

For **past behavior in schools** the overall model was also statistically significant (log likelihood 294.567,  $\chi^2 = 39.190$ ,  $df = 14$ ,  $p \leq 0.001$ , respectively). When comparing teachers with high consistent behavior in school with those who had not talked about HIV/AIDS (table 3b, Annex 2), teachers with substantial personal experience are 2.2 times ( $p \leq 0.01$ : 95% C. I., ORs = 1.2 – 3.8) more likely to demonstrate high consistent behavior than those with no personal experience. Similarly personal experience is also a statistically significant predictor when comparing those with limited behavior with those who did not talk about HIV/AIDS in schools. This odds ratio was, however, notably smaller.

HIV/AIDS knowledge, on the other hand, is a statistically significant predictor only when comparing teachers with high consistent behavior with those who have not talked about HIV/AIDS in schools. Thus teachers with a high level of knowledge of HIV/AIDS and those with an intermediate level of knowledge of HIV/AIDS are 2.3 ( $p \leq 0.01$ : 95% C. I., ORs = 1.2 – 4.3) and 2.2 times ( $p \leq 0.01$ : 95% C. I., ORs = 1.2 – 4.0) more likely, respectively, to have talked about HIV/AIDS in school in the past month than teachers with a low knowledge level (controlling for age, sex and personal experience).

Finally, with respect to past **community behavior** (table 3c, Annex 2), the overall model using knowledge and personal experience to predict community behavior, and controlling for age and sex, is also statistically significant (log likelihood 294.663,  $\chi^2 = 35.351$ ,  $df = 14$ ,  $p \leq 0.001$ ). Comparing teachers with high consistent behavior with those who did not talk about HIV/AIDS in the community, teachers with substantial personal experience are 2.5 times ( $p \leq 0.001$ : 95% C. I., ORs = 1.4-4.6,) more likely to talk about HIV/AIDS in the community than those without personal experience. Contrary to what was hypothesized, knowledge of HIV/AIDS is not a predictor of community behavior.

In summary, hypothesis 2, using personal experience with HIV/AIDS and knowledge of HIV/AIDS to predict willingness to communicate about HIV/AIDS was partially supported. Controlling for age, sex, and knowledge of HIV/AIDS, substantial personal experience of HIV/AIDS (defined as knowing two or more people who are sick/have died of HIV/AIDS) is shown to be a strong and consistent predictor across all three behaviors. Moderate personal experience with HIV/AIDS (defined as knowing one person who is sick/has died of HIV/AIDS) emerges as a predictor only of teachers' future intentions to discuss

HIV/AIDS in the coming month. Controlling for the other three variables in the model, knowledge of HIV/AIDS was statistically significant only in predicting a consistently high behavior of talking about HIV/AIDS in schools in the last month.

*Hypothesis 3: Using Condom Use and Perception of Personal Risk to Predict Willingness to Communicate about HIV/AIDS*

The expectation in this study was that those teachers who regularly used condoms and those that with a high perception of personal risk of becoming infected with HIV/AIDS would be more willing to address HIV/AIDS in the broad educational context (school and community) across all three types of behavior. Teachers were asked to report how often they used condoms and only those teachers who always use condoms were categorized as “always users”. In addition, teachers’ perception of personal risk was measured by asking them whether they believed that they could do more to prevent themselves from becoming infected with HIV/AIDS. Tables 4a, 4b and 4c in Annex 2 provide results of the analysis.

The overall model for **future intentions** (table 4a, Annex 2) is statistically significant (log likelihood 163.277,  $X^2 = 36.943$ ,  $df = 10$ ,  $p \leq 0.001$ ). However, neither condoms use (controlling for age, sex, and personal risk) nor personal risk (controlling for the other three variables in the model) are statistically significant predictors of future intentions to talk about HIV/AIDS. In other words, the model’s statistical significance was entirely the result of the influence of age on future intention, and not of the two variables under consideration in this hypothesis (table not shown).

The same analysis was done to examine the potential impact of condom use and personal risk (controlling for age and sex) on **teachers’ behavior in school over the past month** (table 4b, Annex 2). The overall model of past school behavior was statistically significant here too (log likelihood 167.635,  $X^2 = 22.574$ ,  $df = 10$ ,  $p \leq 0.05$ ). Thus when comparing teachers with high consistent behavior in school with those who exhibited no behavior, and controlling for the three other variables in the model, teachers who believe they can do more to reduce personal risk are 1.7 times ( $p \leq 0.05$ : 95% C. I., ORs = 1.0 - 2.8) more likely to have talked about HIV/AIDS in school in the past month than those who do not believe they need to address their personal risk. Contrary to what was hypothesized, however, condom use was not a statistically significant predictor of past school behavior of talking about HIV/AIDS.

For **past behavior in communities** (table 4c, Annex 2), the overall model using condoms use and risk perception (controlling for age and sex) to predict community behavior is statistically significant (log likelihood 172.618,  $X^2 = 28.463$ ,  $df = 10$ ,  $p \leq 0.01$ ). Thus when contrasting teachers with high

consistent community behavior with those who did not talk about HIV/AIDS in the community (Table 11f), teachers who consistently use a condom are 1.7 times ( $p \leq 0.05$ : 95% C. I., ORs = 1.0 – 2.6) more likely to have talked about HIV/AIDS in the community in the past month than those who used condoms irregularly or never. Condom use – albeit with lower odds ratios - was also a statistically significant predictor when comparing teachers with limited intentions with those that do not intend to talk about HIV/AIDS.

As was hypothesized, assessment of personal risk is also a statistically significant predictor. Thus when comparing teachers with high community behavior to those who did not talk about HIV/AIDS in the community (controlling for the other variables in the model), teachers who believe they can do more to reduce their risk are 1.7 times ( $p \leq 0.05$ : 95% C. I., ORs = 1.0 – 3.0) more likely to have high consistent intentions than teachers who don't believe they need to address personal risk.

In summary, the hypothesis that condom use and perception of personal risk would influence willingness to communicate about HIV/AIDS in the broad educational setting (school and community) was partially supported. With respect to community behavior (and controlling for the other variables in the model) teachers who declared always using a condom, and teachers who believed they could do more to reduce their personal risk, are consistently more likely to have talked about HIV/AIDS in the community in the past month than those who sometimes/never use a condom and did not believe they were at risk. With respect to school behavior it is the perception of personal risk rather than condom use that is the determining factor for past school behavior. Controlling for age, sex and condom use, teachers who declared that they believe they can do more to reduce their personal risk of becoming infected with HIV/AIDS are more likely to have talked about HIV/AIDS in school than those who declared they do not need to do more. No relationship was found between the two predictor variables (condom use and perception of risk) and future intentions to talk about HIV/AIDS.

#### *Hypothesis 4: Using Level Taught to Predict Willingness to Communicate about HIV/AIDS*

This study hypothesized that those teachers who are teaching Grades 6 through 12 (upper primary and secondary level) would be more willing to communicate about HIV/AIDS in their educational setting than lower primary school teachers. Tables for this analysis (tables 5a, 5b, 5c) are in Annex 2.

The overall models for all three types of behavior – future intentions, past behavior in schools, and past behavior in communities – were all statistically significant (log likelihood 128.592,  $X^2 = 29.063$ ,

df = 10,  $p \leq 0.001$  for future intentions, likelihood 120.068,  $X^2 = 28.034$ , df = 10,  $p < 0.01$  for past school behavior and log likelihood 131.197,  $X^2 = 21.198$ , df=10,  $p \leq 0.05$  for past community behavior). Thus, when comparing teachers with high consistent intentions with those that have no intention of talking about HIV/AIDS (and controlling for age and sex), teachers working at upper primary level are more likely to intend to talk about HIV/AIDS in the future and to have done so in past school and community settings than their colleagues in lower primary. The ratios were 1.9 times ( $p \leq 0.05$ : 95% C. I., ORs = 1.0 – 3.7), 2.1 times ( $p \leq 0.05$ : 95% C. I., ORs = 1.1 – 3.8), and 1.8 times ( $p < 0.05$ : 95% C. I., ORs = 1.0 – 3.5), respectively. However, contrary to what was expected, no relationship was found between the three behaviors and teachers lecturing at secondary level. In other words at secondary level teachers are not more likely to intend to talk about HIV/AIDS or to have done so in the past in school and community behavior than their colleagues in lower primary education.

#### Discussion

Teachers are expected to play a major role in fighting the impact of HIV/AIDS and in preventing the spread of this disease. Yet, studies on HIV/AIDS and teachers have given only marginal consideration to the factors that may influence teachers' willingness to communicate about HIV/AIDS with their students. The few studies that exist have focused exclusively on teachers' behavioral intent in the classroom. This study demonstrates that individual differences among teachers influence their willingness to communicate about HIV/AIDS. Thus first hypothesis argued that younger teachers and female teachers would be more willing to address HIV/AIDS across all three behaviors (future intention, past behavior in school and past behavior in the community) than their older and male counterparts. This hypothesis was fully supported for age, which was a consistent and important predictor of willingness to talk about HIV/AIDS across all three behaviors. Sex, on the other hand, was not a predictor of any of the behaviors. This finding was contrary to the hypothesis that females would be more likely than males to be willing to address HIV/AIDS.

None of the studies on teachers and HIV/AIDS that were identified in the context of this work examined the possible impact of age on teachers' willingness to communicate about HIV/AIDS. The strong and consistent link between age and willingness to communicate about HIV/AIDS that was identified in the course of this study suggests that future research should certainly take into account this demographic variable. Furthermore, it should be noted that this study examined willingness to communicate about HIV/AIDS only in terms of frequency of past and future behaviors. It is possible that

age not only impacts on the frequency of future and past discussions with students, but that it also impacts on the topics that teachers are willing to discuss. Thus in addition to including age as a predictor variable, it is important that future research considers the possible relationship between age and the specific topics that are discussed with students.

A final point with regard to age is that evidence from the personal interviews with teachers during the pilot phase of the study suggests that younger teachers may, by virtue of the fact that they have grown up in a different era (an era during which HIV/AIDS became a reality, and during which mass communication campaigns became much more pervasive and obvious) not only be more willing to address HIV/AIDS in general, but may also be more receptive to discussing certain difficult and sensitive topics. Given that HIV/AIDS is affecting particularly the younger age-group it is also possible that younger teachers have more personal experience with HIV/AIDS than older teachers do and that this impacts on their willingness to talk about HIV/AIDS. This suggests that the specific factors that are associated with different age groups should be carefully examined so lessons can be drawn for future interventions. If younger teachers are more willing to address HIV/AIDS and if these teachers are also more likely to discuss certain sensitive topics (this still needs to be verified through further research) then this may have implications for the placement of teachers in schools, and for the training and support programs that are put in place.

Hypothesis 2 contended that teachers with a high level of knowledge of HIV/AIDS and teachers who had a close personal experience with the disease would be more willing to talk about HIV/AIDS. This hypothesis was fully supported for the link between personal experience and willingness to communicate about HIV/AIDS. Controlling for age, sex, and knowledge of HIV/AIDS, substantial personal experience of HIV/AIDS (defined as knowing two or more people who are sick/have died of HIV/AIDS) was shown to be a strong and consistent predictor across all three behaviors. Moderate personal experience with HIV/AIDS (defined as knowing one person who is sick/has died of HIV/AIDS) emerged as a predictor only of teachers' future intentions to discuss HIV/AIDS in the coming month.

Partial support was found for the link between the second variable in this hypothesis - knowledge of HIV/AIDS - and willingness to communicate about the disease in the broad educational context. Knowledge of HIV/AIDS was found to be statistically significant only in predicting a consistently high behavior of talking about HIV/AIDS in schools in the last month and was not a determining factor in either of the other two predicted behaviors (future intentions to talk about HIV/AIDS and community behavior).

In the HIV/AIDS literature it is only very recently that researchers have started examining the link between personal experience with the disease and HIV/AIDS related behavior. The few studies that have examined this relationship have found a consistent and strong link between knowing someone who is sick/has died of HIV/AIDS and behavior change, although the exact relationship between these two variables remains somewhat unclear. For example Macintyre et al. (2001) found that knowing someone who had died of AIDS was strongly related to sexual behavior change among men in Uganda and Zambia, and to a lesser extent among men in Kenya. In a similar earlier study in Uganda, Ntozi and Kirunga (1997) found that the number of HIV patients and AIDS deaths known to a person is significantly related to change in sexual behavior. However, the study did not examine to what extent such changes in behavior persist over time.

As far as teachers are concerned, no previous studies have looked at whether personal experience with HIV/AIDS may impact on teachers' willingness to talk about HIV/AIDS. This study makes a contribution to the field by providing strong support for such a link. This suggests that future studies should probe deeper and not only look at the relationship between these two variables, but specifically at the mechanism that is behind this relationship. Of particular interest would be to establish whether the nature of the relationship with the person who is sick/dies also impacts on teachers' behavior. As McIntyre et al. (2001) note, there are two possible avenues for people who are confronted with the impact of HIV/AIDS. One is that it reinforces their perceptions of fatalism and conviction that little can be done. The other is that it reinforces the engagement with the fight against HIV/AIDS. The reader will recall that in this study the measure of personal experience with HIV/AIDS consisted of a composite of four variables relating to whether the respondents had family living with them who were sick, had family who had died of HIV/AIDS, had friends who were sick/had died of HIV/AIDS, and/or knew a teacher who was sick or had died of HIV/AIDS. It may therefore be relevant for future studies to look not just at the composite impact of knowing someone who is HIV positive or who has died of AIDS, but also at the relationship to this particular person, and to gain understanding into the process by which personal experience influences behavior.

The strong relationship between personal experience and willingness to communicate about HIV/AIDS suggests that from a policy and practice perspective it is vital to find ways to break the culture of silence that surrounds the disease. If teachers (and other people in communities) do not share their personal experience, then the reality of the disease will continue to remain elusive to many. None of the

teachers who participated in this study were willing to disclose their HIV status, and there are no known examples in Mozambique (according to the various education officials who were contacted in the course of this study at national and provincial level) of teachers who have come forward to disclose their status. From a policy perspective the results of the present study suggest that concerted efforts should be made to encourage teachers to share their personal experience with others (teachers, students, other members of the community) so that the visibility of the disease is enhanced and to provide an enabling environment that makes it possible for HIV positive teachers to disclose their status, if they should wish to do so. Other key areas of activity include: a) using examples of teachers personal experience to produce educational/awareness materials that can be used in training and in communication campaigns; b) capitalize on teachers who have personal experience by ensuring that they are given responsibilities related to HIV/AIDS education; and c) ensuring that a more substantial involvement of teachers who have personal experience with HIV/AIDS goes hand in hand with any support they may need, since these teachers may need help in coping with their experiences and in finding effective ways to channel their commitment to addressing HIV/AIDS.

With regard to the second variable in this hypothesis (HIV/AIDS knowledge), the results from prior studies are mixed. As McIntyre et al. (2001) note, "attempts to link knowledge levels with consistent, long-term behavior change have largely failed, and most authorities would agree that knowledge of HIV transmission is a necessary, but not sufficient, factor to determine behavior change" (p. 163). HIV/AIDS knowledge has been linked to other HIV/AIDS related behaviors such as condom use (Valk & Koopman, 2001) with people being more likely to use condoms the more knowledge they have of HIV/AIDS. Lin and Wilson (1998) found that secondary school teachers with high intentions to talk about HIV/AIDS also had higher knowledge levels. The results of this study mirror the findings above regarding HIV knowledge for behavior in school. Teachers with high knowledge levels were more likely to engage in high consistent school behavior.

The findings of this study indicate, as other studies have also done, that the relationship between knowledge of HIV/AIDS and behavior is not necessarily a direct one. This does not mean that the importance of knowledge should be ignored. Given that higher knowledge levels are associated with high consistent talking in schools in this study, and given that this is an important behavior, all efforts should be made to ensure that teachers have good levels of knowledge. Thus, regardless of whether knowledge itself influences teachers' willingness to communicate about HIV/AIDS, the concern remains that if



teachers' own understanding of HIV/AIDS is limited, they may be talking to their students but putting across erroneous information. This implies that support to teachers needs to include providing them with more information about HIV/AIDS and resources where they can voice their questions and concerns.

Finally, a potentially important incidental finding of this study (not reported on here) is that teachers with higher personal experience of HIV/AIDS in this study also had more knowledge of the disease. Support for this has been found in at least one prior study (McIntyre et al., 2001). This suggests that in terms of policy and practice enhancing and creating visibility of the disease would contribute not only to teachers' behavior of talking about HIV/AIDS (as was suggested above) but would also contribute to enhancing teachers' engagement with the issue and encouraging them to pursue answers to the questions that they have about HIV/AIDS and make them more effective communicators in general.

With respect to the third hypothesis, the expectation of the study was that those teachers who regularly used condoms and those that have a high perception of personal risk of becoming infected with HIV/AIDS would be more willing to address HIV/AIDS in the educational context across all three types of behavior. This hypothesis was partially supported for both variables. No relationship was found between the two predictor variables (condom use and perception of risk) and future intentions to talk about HIV/AIDS. However, perception of personal risk was the determining factor for past school behavior. Teachers who declared that they believe they can do more to reduce their personal risk of becoming infected with HIV/AIDS were more likely to have talked about HIV/AIDS in school than those who declared they do not need to do more to reduce their risk. And, interestingly, for community behavior, both condom use and personal risk were the predictors of behavior. Teachers who declared always using a condom were consistently more likely to have talked about HIV/AIDS in the community in the past month than those who sometimes/never use a condom.

There is considerable support in prior literature that personalization of a problem is more likely to lead to behavior change (c.f. Barnett & Whiteside, 2002). Various studies have shown that population groups who believe that they are themselves at risk, are more likely to engage in protective behaviors such as using condoms (c.f. Adih & Alexander, 1999; Basen-Engquist, 1992). This study provides further support for the findings of these earlier studies.

From the perspective of this study, a key further question is whether training and other support activities (such as mass media campaigns) for teachers can make them more aware of the problem of

HIV/AIDS and lead to a greater personalization of this issue. If this proves to be so, then training and support programs may need to be revised and tailored to encourage stronger personalization of issues. One possible avenue for further research is to examine whether there is a relationship between personal experience with HIV/AIDS and personalization of the problem. In addition, it may be that poor levels of knowledge are associated with low levels of personalization of the problem.

While condom use by teachers and students has been examined in a number of studies, no previous study has examined whether teachers' own use of condoms influences their willingness to talk about HIV/AIDS. It is interesting to note in this study that condom use influences community behavior rather than school behavior or future behavior. Possibly this is related to the fact that many teachers work and live in small communities where not much goes unnoticed so that they would only feel secure in talking about condoms if they are actually practicing what they preach. In order to establish this, the exact link between condom use and teachers' behavior in the community needs further investigation. Meanwhile, from a policy and practice perspective the findings of this study provide strong support for continuing to inform and raise awareness about condom use, among teachers and the general public. Given that teachers cited many myths and misconceptions with regard to condoms during the pilot phase of the study (and which led to the inclusion of specific questions on myths and misconceptions in the HIV/AIDS knowledge scale), it is also of importance that communication and training campaigns for teachers and the general public address these myths and that they find convincing and compelling ways to dispel them.

In general, distinguishing between different types of behaviors in the broad educational context, this study suggests that some individual difference variables (such as personal experience with HIV/AIDS and teachers ages) consistently impact on all types of behavior studied, whereas other variables (such as knowledge of HIV/AIDS) only impact on certain behaviors. Future research should attempt to identify other individual difference variables (such as fatalism, exposure to mass media, emotional distress and other personality characteristics) that impact on teachers' decisions to communicate about HIV/AIDS. Future studies in this area should also examine how individual difference variables impact not only on the frequency of past and future communication, but also on the content that teachers discuss with their students. In addition, future studies could also examine the extent to which past behavior predicts future behavior. This study is cross-sectional in nature. As programs and initiatives to support teachers come off the ground, future studies should attempt to study teachers' approach and commitment to

communicating about HIV/AIDS over time, so that corrective actions can be taken when and as they arise.

#### Limitations of the Study

The study considered only frequency of behavior and not the actual content that teachers were addressing. It is possible, however, that differences in the content discussed by teachers with their students in the different settings (future behavior, past school behavior and past community behavior) are also a function of individual difference variables. In this study, frequency is presented as a desirable outcome, but it should be noted that frequency of communicating about HIV/AIDS is not in itself a guarantee of quality of the content and interaction. Secondly, while the study considered both past school and community behavior as predicted variables and used various items to create a composite for these two measures, only one item was used to generate an overall measure of future intentions. Apart from the obvious problems of reliability, this also had the disadvantage of making it impossible to draw comparisons in terms of future school and community behavior, as had been done for the past behavior. Furthermore, the study relied entirely on self-report by teachers. Reliance on self-report can be problematic and may threaten the validity of the findings. It is possible that participants were biased in their replies, and that they may have felt uncomfortable in replying honestly to certain questions. Finally, the study was conducted in southern Mozambique only, where teachers tend to be better trained than those in other parts of the country. In addition, Gaza province is exceptional because it has a very substantial number of female teachers (almost half of the teaching force) whereas nationwide the women occupy only one quarter of the teaching positions. Because of these particularities of the province, care must be taken in generalizing the findings of this study.

## References

- ActionAid. (2002). *The Sound of Silence – Difficulties in Communicating on HIV/AIDS In Schools*: Action Aid.
- Adih, W. K., & Alexander, C. S. (1999). Determinants of Condom Use to Prevent HIV Infection Among Youth in Ghana. *Journal of Adolescent Health*, 24, 63-72.
- Barnett, T., & Whiteside, A. (2002). Poverty and HIV/AIDS: Impact, Coping and Mitigation Policy. In G. A. Cornia (Ed.), *AIDS, Public Policy and Child Well-Being*. Florence: UNICEF.
- Basen-Engquist, K. (1992). Psychosocial Predictors of "Safer Sex" Behaviors in Young Adults. *AIDS Education and Prevention*, 4, 120-134.
- Ben-Zur, H., Breznitz, S., Wardi, N., & Berzon, Y. (2000). Denial of HIV/AIDS and preventive behavior among Israeli Adolescents. *Journal of Adolescence*, 23, 157-174.
- Brook, U. (1999). AIDS Knowledge and Attitudes of Pupils Attending Urban High Schools in Israel. *Patient Education and Counseling*, 36, 271-278.
- Chifunyse, T., Benoy, H., & Mukiibi, B. (2002). An Impact Evaluation of Student Teacher Training in HIV/AIDS Education in Zimbabwe. *Evaluation and Program Planning*, 25, 377-385.
- Chiwela M. J. & Mwape, K. G. (1999). Integration of teaching HIV/AIDS prevention and psychosocial life skills into school and college curricula in Zambia. Lusaka, Zambia: UNESCO.
- Coombe, C. (2002). Mitigating the Impact of HIV/AIDS on Education Supply, Demand and Quality. In G. A. Cornia (Ed.), *AIDS, Public Policy and Child Well-Being: UNICEF*.
- Coombe, C., & Kelly, M. J. (2002). Education as a Vehicle for Change. *Prospects UNESCO*, 31(3), 435-446.
- Davis, C., Noel, M. B., Chan, S.-F. F., & Wing, L. S. (1998). Knowledge, Attitudes and Behaviors Related to HIV and AIDS Among Chinese Adolescents in Hong Kong. *Journal of Adolescence*, 21, 657-665.
- Dawson, L. J., Chunis, M. L., Smith, M. D., & Carboni, A. A. (2001). The Role of Academic Discipline and Gender in High School Teachers' AIDS-Related Knowledge and Attitudes. *Journal of School Health*, 71(1), 3-8.
- Global Campaign for Education (2004). *Learning to Survive: How Education for All Would Save Millions of Young People from HIV/AIDS*. Global Campaign for Education

Horizons. (2001). Reducing HIV Infection Among Youth: What Can Schools Do? : The Population Council, Inc.

Karlyn, A. S. (2001). The Impact of a Targeted Radio Campaign to Prevent STIs and HIV/AIDS in Mozambique. AIDS Education and Prevention, 13(5), 438-451.

Kelly, M. J. (2002). Defeating HIV/AIDS Through Education. Lusaka, Zambia: University of Zambia.

Kelly, M. J. (2003). Preventing HIV Transmission through Education (Unpublished paper).

Kesby, M. (2000). Participatory Diagramming as a Means to Improve Communication about Sex in Rural Zimbabwe: A Pilot Study. Social Science and Medicine, 50, 1723-1741.

Koch, P. B., & Singer, M. D. (1998). HIV/AIDS Knowledge and Attitude Scales for Teachers. Thousand Oaks: Sage.

Lin, W.-S., & Wilson, J. T. (1998). Science Teachers' Intentions to Teach About HIV/AIDS. Procedures of National Science Council, 8(2), 77-85.

Macintyre, K., Brown, L., & Sosler, S. (2001). "Its not what you know but who you knew": Examining the Relationship Between Behavior Change and AIDS Mortality in Africa. AIDS Education and Prevention, 13(2), 160-174.

Magnani, R. J., Karim, A. M., Weis, L. A., Bond, K. C., Lemba, M., & Morgan, W. T. (2002). Reproductive Health Risk and Protective Factors Among Youth in Lusaka, Zambia. Journal of Adolescent Health, 30, 76-86.

Malambo, R. M. (2000). Teach Them While They are Young, They Will Live to Remember. Current Issues in Comparative Education, 3(1).

Mkumba, S., & Edwards, J. (1992). Study into the Attitudes, Knowledge and Behavior of Students at Higher Institutions of Learning. Paper presented at the 3rd Zambian AIDS NGO Conference, Lusaka, Zambia.

Ntozi, J. P., & Kirunga, C. T. (1997). HIV/AIDS Change in Sexual Behavior and Community Attitudes in Uganda. Health Transition Review, 7(supplement), 157-175.

Nwokocha, A. R. C., & Nwakoby, B. A. N. (2002). Knowledge, Attitude and Behavior of Secondary (high) School Students Concerning HIV/AIDS in Enugu, Nigeria in the Year 2000. Journal of Pediatric Adolescent Gynecology, 15, 93-96.

- Ramirez, J. R., Crano, W. D., Quist, R., Brugoon, M., Alvaro, E. M., & Grandpre, J. (2002). Effects of Fatalism and Family Communication on HIV/AIDS Awareness Variations in Native American and Anglo Parents and Children. AIDS Education and Prevention, 14(1), 29-40.
- Sikand, A., Fisher, M., & Friedman, S. B. (1996). AIDS Knowledge, Concerns and Behavioral Changes Among Inner City high School Students. Adolescent Health Brief, 18, 325-328.
- Simon-Meyer, J & Odallo, D (2002). Greater involvement of people living with HIV/AIDS in South Africa. Evaluation and Program Planning. Vol. 25. pp. 471-479.
- UNAIDS. (1997). Learning and Teaching about AIDS in schools. Geneva: UNAIDS.
- UNAIDS. (2003). AIDS Epidemic Update: UNAIDS.
- UNESCO. (2002). Towards an African Response: UNESCO's Strategy for HIV/AIDS Education in Sub-Saharan Africa (2002-2007). Dakar, Senegal: UNESCO.
- Vandemoortele, J., & Delamonica, E. (2000). The "Education Vaccine" Against HIV. Current Issues in Comparative Education, 3(1), 1-8.
- Venier, J. L., Ross, M., W, & Adebowale, A. (1997). HIV/AIDS Related Social Anxieties in Adolescents in Three African Countries. Social Science Medicine, 46(3).
- Verma, R., K., Sureender, S., & Guruswamy, M. (1997). What do School Children and Teachers in rural Maharashtra Think of AIDS and Sex? Health Transition Review, 7, 481-486.
- Volk, J. E., & Koopman, C. (2001). Factors Associated With Condom Use in Kenya: A Test of the Health Belief Model. AIDS Education and Prevention, 13(6), 495-508.
- Vosvick M, Gore-Felton C, Koopman C, Thoresen C, Krumboltz J, Spiegel D. Maladaptive coping strategies in relation to quality of life among HIV+ adults. AIDS & Behavior 2002; 6(1):97-106.
- World Bank. (2002). Education and HIV/AIDS: A Window of Hope. Washington DC: The World Bank.

Annex 1

Description of the Data

The tables below provide an overview of the predicted and predictor measures in this study, providing frequencies for the subcategories of each measure as well as the total number of valid responses for each measure.

**Frequencies of the predictor measures in the study**

PREDICTOR MEASURES			
<b>AGE (n=489)</b>	In %		<b>PERCEPTION OF PERSONAL RISK (n=484)</b>
Under 25	25.6		Can do more to reduce personal risk 70.7
26 – 35	37.6		Do not need to do more to reduce risk 28.3
Over 35	36.8		
<b>PERSONAL EXPERIENCE WITH HIV/AIDS (n=478)</b>			<b>SEX (n=468)</b>
No experience	43.4		Male 44.9
Knows 1 person who is sick/died	29.9		Female 55.1
Knows 2 or more people sick/died	26.8		
<b>KNOWLEDGE OF HIV/AIDS (n=494)</b>			<b>LEVEL TAUGHT (n=494)</b>
Relatively low level of knowledge	32.2		Lower primary 68.2
Moderate knowledge level	43.9		Upper primary 15.8
High level of knowledge	23.9		Secondary level 16.0
<b>CONDOM USE (n=494)</b>			
Always use	26.5		
Sometimes/never use	73.5		

**Frequencies of Predicted measures in the study**

PREDICTED MEASURES			
<b>FUTURE INTENTIONS TO DISCUSS HIV/AIDS – 2 LEVEL (n=474)</b>	In %		<b>FUTURE INTENTIONS TO DISCUSS HIV/AIDS – 3 LEVEL (n=474 )</b>
			In %

PREDICTED MEASURES			
Intends to talk about HIV/AIDS	65.3	High consistent intentions	37.8
Does not intend to talk about HIV/AIDS	34.7	Limited intentions	28.7
		No intentions	33.5
<b>PAST BEHAVIOR IN SCHOOL – 2 LEVELS (n=494)</b>		<b>PAST BEHAVIOR IN SCHOOL – 3 LEVELS (n=494)</b>	
Talked about HIV/AIDS	48.6	High consistent behaviors	24.1
Did not talk about HIV/AIDS	51.4	Limited behaviors	24.5
		No behaviors	51.4
<b>PAST BEHAVIOR IN COMMUNITY – 2 LEVELS (n=494)</b>		<b>PAST BEHAVIOR IN COMMUNITY – 3 LEVELS (n=494)</b>	
Talked about HIV/AIDS	43.7	High consistent behaviors	17.6
Did not talk about HIV/AIDS	56.3	Limited behaviors	26.1
		No behaviors	56.3



Annex 2

**Table 3a - MLR Analysis: Using Personal Experience and Knowledge to Predict Teachers' Future Intentions to Talk About HIV/AIDS**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	375.098			
Final	307.518	67.580	14	***

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Intention (3 Levels) to Talk About HIV/AIDS in the Coming Month		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent intentions	Intercept	1				
	Female	1		1.040	.646	1.675
	Male	0				
	Age 25 and under	1	***	5.447	2.880	10.301
	Age 26 - 35	1	***	2.600	1.513	4.469
	Age over 35	0				
	High knowledge of HIV/AIDS	1		1.306	.698	2.443
	Intermediate knowledge of HIV/AIDS	1		1.108	.641	1.914
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1	***	4.638	2.567	8.380
	Knows 1 person sick/died of HIV/AIDS	1	**	2.180	1.241	3.829
No personal experience with HIV/AIDS	0					
Limited intentions	Intercept	1				
	Female	1		1.027	.626	1.685
	Male	0				
	Age 25 and under	1	***	2.942	1.530	5.657
	Age 26 - 35	1		1.572	.903	2.736
	Age over 35	0				
	High knowledge of HIV/AIDS	1		.887	.452	1.741
	Intermediate knowledge of HIV/AIDS	1		1.164	.666	2.034
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1	**	2.232	1.166	4.271
	Knows 1 person sick/died of HIV/AIDS	1	***	2.640	1.503	4.638
No personal experience with HIV/AIDS	0					

a. The reference category is: No, do not intend to talk about HIV/AIDS

**Table 3b: MLR Analysis - Using Personal Experience and Knowledge Predict Teachers' Talking About HIV/AIDS in School in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	333.758			
Final	294.567	39.190	14	***

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked about HIV/AIDS in School in Past Month (3-levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.958	.597	1.536
	Male	0				
	Age 25 and under	1	***	2.765	1.536	4.976
	Age 26 - 35	1		1.083	.621	1.886
	Age over 35	0				
	High knowledge of HIV/AIDS	1	**	2.288	1.191	4.396
	Intermediate knowledge of HIV/AIDS	1	**	2.213	1.223	4.005
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1	**	2.167	1.230	3.817
	Knows 1 person sick/died of HIV/AIDS	1		1.397	.800	2.440
	No personal experience with HIV/AIDS	0				
Limited behavior	Intercept	1				
	Female	1		1.194	.757	1.884
	Male	0				
	Age 25 and under	1	**	2.283	1.270	4.104
	Age 26 - 35	1		1.264	.742	2.155
	Age over 35	0				
	High knowledge of HIV/AIDS	1		.587	.310	1.110
	Intermediate knowledge of HIV/AIDS	1		.877	.531	1.451
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1	*	1.635	.941	2.841
	Knows 1 person sick/died of HIV/AIDS	1		1.144	.665	1.967
	No personal experience with HIV/AIDS	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Table 3c: MLR Analysis - Using Personal Experience and Knowledge Predict Teachers' Talking About HIV/AIDS in the Community in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	330.014			
Final	294.663	35.351	14	***

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked about HIV/AIDS in the Community in Past Month (3 levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	**	.515	.304	.874
	Male	0				
	Age 25 and under	1	***	2.911	1.497	5.660
	Age 26 - 35	1	**	2.130	1.147	3.953
	Age over 35	0				
	High knowledge of HIV/AIDS	1		1.216	.627	2.359
	Intermediate knowledge of HIV/AIDS	1		1.140	.628	2.069
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1	***	2.535	1.414	4.547
	Knows 1 person sick/died of HIV/AIDS	1		.874	.458	1.667
	No personal experience with HIV/AIDS	0				
Limited behavior	Intercept	1				
	Female	1		.993	.640	1.542
	Male	0				
	Age 25 and under	1	**	1.680	.968	2.916
	Age 26 - 35	1		1.051	.628	1.760
	Age over 35	0				
	High knowledge of HIV/AIDS	1		.924	.500	1.710
	Intermediate knowledge of HIV/AIDS	1		1.416	.855	2.345
	Low knowledge of HIV/AIDS	0				
	Knows 2 or more people sick/died of HIV/AIDS	1		1.220	.701	2.125
	Knows 1 person sick/died of HIV/AIDS	1		1.218	.734	2.022
	No personal experience with HIV/AIDS	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Table 4a: MLR Analysis - Using Condom Use and Perception of Personal Risk to Predict Teachers' Talking About HIV/AIDS in School in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	200.220			
Final	163.277	36.943	10	***

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked About HIV/AIDS in School in Past Month (3-levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.979	.612	1.565
	Male	0				
	Age 25 and under	1	***	2.460	1.380	4.385
	Age 26 - 35	1		1.136	.655	1.970
	Age over 35	0				
	Always use condom	1		1.219	.734	2.024
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1	*	1.687	1.003	2.837
	Do not need to do more to reduce personal risk	0				
Limited behavior	Intercept	1				
	Female	1		1.356	.865	2.126
	Male	0				
	Age 25 and under	1	**	2.066	1.158	3.685
	Age 26 - 35	1		1.268	.753	2.135
	Age over 35	0				
	Always use condom	1		1.358	.833	2.212
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1		1.291	.798	2.088
	Do not need to do more to reduce personal risk	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Table 4a: MLR Analysis - Using Condom Use and Perception of Personal Risk to Predict Teachers' Talking About HIV/AIDS in School in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	190.209			
Final	167.635	22.574	10	*

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked About HIV/AIDS in School in Past Month (3-levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.979	.612	1.565
	Male	0				
	Age 25 and under	1	***	2.460	1.380	4.385
	Age 26 - 35	1		1.136	.655	1.970
	Age over 35	0				
	Always use condom	1		1.219	.734	2.024
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1	*	1.687	1.003	2.837
	Do not need to do more to reduce personal risk	0				
Limited behavior	Intercept	1				
	Female	1		1.356	.865	2.126
	Male	0				
	Age 25 and under	1	**	2.066	1.158	3.685
	Age 26 - 35	1		1.268	.753	2.135
	Age over 35	0				
	Always use condom	1		1.358	.833	2.212
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1		1.291	.798	2.088
	Do not need to do more to reduce personal risk	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Table 4c: MLR Analysis - Using Condom Use and Perception of Personal Risk to Predict Teachers' Talking About HIV/AIDS in the Community in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	201.081			
Final	172.618	28.463	10	**

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked About HIV/AIDS in Community in Past Month (3-levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	*	.587	.350	.985
	Male	0				
	Age 25 and under	1	**	2.359	1.226	4.538
	Age 26 - 35	1	*	2.043	1.114	3.748
	Age over 35	0				
	Always use condom	1	*	1.698	1.000	2.884
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1	*	1.723	.976	3.042
	Do not need to do more to reduce personal risk	0				
Limited behavior	Intercept	1				
	Female	1		1.077	.693	1.674
	Male	0				
	Age 25 and under	1	*	1.604	.924	2.782
	Age 26 - 35	1		1.079	.645	1.806
	Age over 35	0				
	Always use condom	1	*	1.578	.977	2.546
	Sometimes/never use condom	0				
	Can do more to reduce personal risk	1		1.421	.881	2.293
	Do not need to do more to reduce personal risk	0				

a. The reference category is: No, did not talk about HIV/AIDS

**Table 5a: MLR Analysis: Using Level Taught to Predict Teachers' Future Intentions to Talk About HIV/AIDS**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	157.655			
Final	128.592	29.063	10	***

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Intention (3 Levels to Talk About HIV/AIDS in the Coming Month <sup>a</sup> )		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent intentions	Intercept	1				
	Female	1		.933	.569	1.529
	Male	0				
	Age 25 and under	1	***	3.807	2.062	7.032
	Age 26 - 35	1	***	2.466	1.448	4.200
	Age over 35	0				
	Secondary level teacher	1		.717	.375	1.373
	Upper primary teacher	1	*	1.903	.970	3.733
	Lower primary teacher	0				
Limited intentions	Intercept	1				
	Female	1		.993	.589	1.674
	Male	0				
	Age 25 and under	1	**	2.630	1.378	5.019
	Age 26 - 35	1	*	1.802	1.031	3.148
	Age over 35	0				
	Secondary level teacher	1		.857	.436	1.683
	Upper primary teacher	1		1.501	.723	3.115
	Lower primary teacher	0				

a. The reference category is: No intention to talk about HIV/AIDS

**Table 5b: MLR Analysis - Using Level Taught to Predict Teachers' Talking About HIV/AIDS in School in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	148.101			
Final	120.068	28.034	10	**

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked About HIV/AIDS in School in Past Month (3-levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		1.003	.607	1.655
	Male	0				
	Age 25 and under	1	**	2.418	1.349	4.335
	Age 26 - 35	1		1.058	.605	1.849
	Age over 35	0				
	Secondary level teacher	1		1.008	.527	1.928
	Upper primary teacher	1	*	2.056	1.105	3.827
	Lower primary teacher	0				
Limited behavior	Intercept	1				
	Female	1		1.108	.684	1.796
	Male	0				
	Age 25 and under	1	**	2.294	1.267	4.150
	Age 26 - 35	1		1.370	.802	2.340
	Age over 35	0				
	Secondary level teacher	1		.424	.200	.895
	Upper primary teacher	1		1.096	.567	2.116
	Lower primary teacher	0				

a. The reference category is: No, did not talk about HIV/AIDS.



**Table 5c: MLR Analysis - Using Level Taught to Predict Teachers' Talking About HIV/AIDS in the Community in the Past Month**

Model	-2 Log Likelihood	Chi-Square	df	Sig. <sup>a</sup>
Intercept Only	152.396			
Final	131.197	21.198	10	*

a. \* p <= 0.05, \*\* p <= 0.01, \*\*\* p <= 0.001

Talked About HIV/AIDS in the Community in Past Month (3 levels) <sup>a</sup>		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	*	.574	.325	1.014
	Male	0				
	Age 25 and under	1	*	2.175	1.109	4.266
	Age 26 - 35	1	*	2.001	1.070	3.740
	Age over 35	0				
	Secondary level teacher	1		1.516	.768	2.992
	Upper primary teacher	1	*	1.791	.921	3.484
	Lower primary teacher	0				
Limited behavior	Intercept	1				
	Female	1		.967	.605	1.545
	Male	0				
	Age 25 and under	1	*	1.657	.952	2.886
	Age 26 - 35	1		1.139	.677	1.916
	Age over 35	0				
	Secondary level teacher	1		.940	.489	1.807
	Upper primary teacher	1		.954	.502	1.812
	Lower primary teacher	0				

a. The reference category is: No, did not talk about HIV/AIDS