

CHAPTER 5: DISCUSSION

As an aide to the reader the final chapter of this dissertation provides a brief overview of the study, including a statement of the problem and the major methods involved. The majority of the chapter is, however, devoted to a summary and discussion of the six study hypotheses and to a discussion of the pertinence of the results for the role of teachers in HIV/AIDS awareness and prevention.

Summary of the Study Problem and Methodology

HIV/AIDS has spread hard and fast in Africa over the past two decades, over seventy percent of all new HIV infections take place in Africa (UNAIDS, 2003). Sub-Saharan Africa has been especially affected, where several countries, such as Botswana, Malawi and Swaziland, have reached adult prevalence rates of 20% and over. As the disease is increasingly impacting on the social, economic, cultural and even political fabric of these countries, urgent efforts are being made to mobilize all possible resources – human, economic, and otherwise – to halt the spread of the disease (IBRD/World Bank, 2000).

One of the resources that is increasingly being mobilized in the fight against HIV/AIDS are teachers. The assumption is that teachers are ideally situated to reach children as well as young people, and to play an important role in providing key information, in teaching essential skills and in contributing to attitude change that will allow these children to protect themselves. Children between 5 and 14 are considered the “window of hope” (IBRD/World Bank, 2002) in fighting the disease because they have escaped infection at birth, are assumed not yet to be sexually active, and are still in the process of developing attitudes and behavioral patterns and are therefore more easily influenced than adults (UNAIDS, 1997).

In spite of this important role of teachers, however, the bulk of the research on HIV/AIDS and education has focused on students and young people rather than on teachers themselves. Only very few studies have examined the current and potential role of teachers in the context of HIV/AIDS (c.f. Lin & Wilson, 1998; Action Aid, 2003). And, in general there appears to be an implicit assumption on the part of policy makers and practitioners in education that provided teachers are given the right conditions, they will - regardless of their individual characteristics - ensure that students know what they need to know in order to effectively protect themselves.

The overall purpose of this study was to identify and further understand key factors that may contribute to teachers' willingness to communicate about HIV/AIDS in the educational setting. In this manner, the study sought to fill the gap in the research on teachers and HIV/AIDS which has typically focused on cataloguing teachers' knowledge and attitudes, but without relating them directly to practice. The assumption of this study was that a better understanding of the personal and contextual variables that influence teachers' willingness to communicate about HIV/AIDS could provide a key input into policy decisions and into the design of practical interventions that will strengthen the teacher's role as communicators about HIV/AIDS.

Acknowledging that the integration of models and theories in studies of this nature in developing settings is generally lacking (Kelly, 1999), two theoretical frameworks, the Theory of Planned Behavior, and Attitude Function Theory were used as basis for the inquiry into these individual difference variables. Other important variables which could impact on past and future behavior of teachers were identified and operationalized in the course of the study itself based on an extensive review of the available literature as well as on the focus group discussions with teachers in the pilot phase of the study. In this manner the following variables were identified as possible predictors of teachers' willingness to communicate about HIV/AIDS: age, sex, knowledge of HIV/AIDS, personal experience with HIV/AIDS, condom use, perceived personal risk, attitudes toward talking about HIV/AIDS, social norms, perceived behavioral control, and attitude functions.

Previous studies have typically examined HIV/AIDS teaching from the perspective of behavioral intent only. However, discussions with teachers during the pilot phase of the study had indicated that talking about HIV/AIDS was context specific and could involve either future behavior or past behavior of a combination of both. This study thus departed from the approach taken by other studies by operationalizing the predicted behavior "willingness to communicate about HIV/AIDS" in terms of three types of behavior: future intentions to talk about HIV/AIDS with students, past behavior of talking about this topic in school, and past community behavior.

This study was conducted in the province of Gaza in Southern Mozambique among primary and secondary school teachers. A non-experimental mainly quantitative, research design was used to examine the individual difference variables that were identified as being potentially important to teachers' willingness to communicate about HIV/AIDS. Data were obtained by administering surveys containing predominantly structured questions to teachers in five districts of Gaza province. Although the study was mainly quantitative in nature, qualitative techniques were used to: inform the study during the design phase; to aid conceptual and instrument development; and to assist in the interpretation and clarification of the results of the study.

The study was conducted in two phases. The first - pilot - phase took place over a period of seven weeks in the months of June and July, 2003. During the pilot phase, key issues impacting on teachers' willingness to communicate about HIV/AIDS were identified and instruments developed, adapted and tested to measure these variables. The second phase took place in September 2003, and covered a three-week period during which questionnaires were administered to a stratified sample of 606 primary and secondary school teachers as well as to a convenience sample of 157 primary and secondary school students in five districts of the province. In addition, individual in-depth interviews were conducted with 28 teachers.

In the next section the main conclusions for each of the six hypotheses of the study are reviewed. In addition, implications for further research are discussed.

Review and Discussion of the Main Conclusions of the Study

Six hypotheses were formulated for this study. For all six hypotheses the predicted measures were: a) future intentions to talk about HIV/AIDS in the coming month; b) past school behavior (also measured over a one-month period); and c) past community behavior by teachers. In this study these three behaviors are grouped together under the heading "willingness to communicate about HIV/AIDS". Each of the three behavior types was analyzed from two perspectives. The first perspective - referred to as the 2 level comparison - contrasted no behavior (future, in school, in community) with any level of behavior in these settings. The second perspective acknowledged the existence of different degrees/levels of behavior by contrasting no behavior, with limited behavior and high consistent behavior. Details on the manner in which each of these behaviors was operationalized and measured can be found in Chapter 3.

In the following section of this chapter the main findings are reviewed for each hypothesis followed by a discussion of these findings and an analysis of the implications of these findings for future studies. Several suggestions are made concerning the relevance of these findings for policy and practice in Mozambique.

Age and Sex – Hypothesis 1

The 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.

Conclusions

The first hypothesis was fully supported for age, which was a consistent and important predictor of willingness to talk about HIV/AIDS across all three behaviors. Particularly noteworthy is that the relationship between age and the predicted measures tended to be stronger when contrasting high consistent behavior with no behavior than when simply comparing any presence of the behavior with no behavior.

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.

Discussion and implications

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 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.

Personal Experience and Knowledge – Hypothesis 2

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.

Conclusions

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. For this hypothesis too, the relationship between personal experience and willingness to communicate about HIV/AIDS is particularly strong when contrasting high consistent and limited levels of behavior with no behavior.

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).

Discussion and implications

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, other than my own study, 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. In my study, however, knowledge of HIV/AIDS and future behavior and past community behavior were not related.

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. It should further be noted that both the survey and the personal interviews with teachers revealed numerous shortcomings in teachers’ knowledge and understanding of HIV/AIDS, and that during the study the tables were frequently turned on the researcher with teachers trying to turn the personal interviews (and the focus groups in the pilot phase) into a question and answer session from their side about various aspects related to HIV/AIDS transmission and prevention. 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 in this dissertation) 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. It goes without saying that this would have to go hand in hand with ensuring that teachers have access to resources about HIV/AIDS which they can use to answer their questions.

Condom Use and Perception of Personal Risk – Hypothesis 3

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.

Conclusions

The 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. In both types of comparison (2 and 3 level) of school behavior it was the perception of personal risk that 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.

In both levels of community behavior, it was condom use and personal risk that 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.

Discussion and implications

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 populations 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 to 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. But there may be other reasons and therefore 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 (some of which were reported on in the qualitative part of the study). It is also of paramount 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.

Attitudes, Social norms and Perceived Behavioral Control – Hypothesis 4

Hypothesis 4 examined how traditional predictors of behavior/behavioral intent in the Theory of Planned Behavior (TPB) impact on future intention of teachers to address HIV/AIDS, on past school behavior, and on past community behavior. The expectation was that teachers with highly supportive attitudes of talking about HIV/AIDS, teachers who do not believe social norms are important, and teachers who have a high level of perceived behavioral control would be more willing to address HIV/AIDS across all three types of behavior.

Conclusions

This hypothesis was partially supported by the study. Perceived behavioral control and attitude toward talking about condoms and sexuality in schools emerged as the key factors in contributing to future intentions to talk about HIV/AIDS, with teachers who have a high/moderate level of perceived behavioral control being more likely to intend to talk about HIV/AIDS in the coming month, and with teachers who have a very supportive attitude being more likely to have high consistent intentions of addressing HIV/AIDS in the future. The study failed to find support

for a link between the three predictor variables and past school behavior. With respect to community behavior, attitudes emerged as consistent predictors of past community behavior at both levels. In summary, of the three variables, strongest support was found for the importance of attitudes, which was a determining factor for two of the three behaviors (future intent and past community behavior).

Discussion and implications

As was noted in the literature review, the limited research that has taken place in developing contexts has shown that models that work well in developed/western contexts such as the Theory of Reasoned Action and the Health Beliefs Model (c.f. Lin & Wilson, 1999) do not always find support when applied to developing countries (c.f. Volk & Koopman, 2001). This study too, did not find strong consistent support for using the Theory of Planned Behavior to predict teachers' willingness to communicate about HIV/AIDS across all three behaviors (future intentions, past school behavior and past community behavior), although some of the variables of the TPB were predictors for one or two of the types of behavior. In part these models may be too rational and too "western" to accommodate the variety of irrational and mythical issues that appear to influence behavioral intent as well as behavior. Future research should therefore focus on expanding/revising existing models of behavior to accommodate a variety of factors that may be relevant from a contextual and cultural perspective, such as cultural beliefs, fear of HIV/AIDS, experience with the disease, self-esteem, degree of emotional distress, myths associated with condoms, etc. Such models should also question whether concepts such as perceived behavioral control can automatically be transferred to a developing context where the notion of control may be a very different concept.

It should also be noted that, in attitude research, theories typically perform much better in predicting behavioral intent than in predicting behavior and that the more specific the behavior, the better the predictive power of the theory. Two of the predicted behaviors in this study did not refer to behavioral intent, but rather to past behavior, which may have affected the predictive capacity of the model as far as attitudes are concerned. In addition, the overall focus of the study was on the rather general behavior "talking to students about HIV/AIDS". This may actually encompass many different kinds of activities, among which lecturing, informal discussions, awareness activities, organizing plays, etc. Replications or extensions of this kind of study may find stronger support for theories such as the TPB if the outcome behavior is more specifically defined, e.g. "how many times do you intend to lecture to your students about living positively with HIV/AIDS in the coming week?"

In spite of these limitations, the findings of this study still provide an indication of priorities in terms of designing interventions aimed at supporting teachers. One clear conclusion is that teachers require different support at different stages of their decision making about addressing HIV/AIDS. The fact that perceived behavioral control and social norms may constitute deterrents for teachers' intentions to address HIV/AIDS, makes it important to ensure that teacher training enhances their capacity to deal with social pressure, that it focuses on empowering them to take action, and on providing them with the necessary materials (or tools for producing materials that they will need).

In the case of community behavior, where attitudes are an important factor, it may be somewhat harder to use short-term interventions to generate change since attitude change is a slow and difficult process. However, it does indicate that teachers who are to work as HIV/AIDS activists in communities, will need to be selected taking into account the attitudes that they hold towards talking about HIV/AIDS.

Level Taught – Hypothesis 5

This study hypothesized that teachers in Grades 6 through 12 (upper primary and secondary level) would be more willing to address HIV/AIDS in their educational setting than lower primary school teachers.

Conclusions

The results of the study found strong and consistent support for the contention that teachers in upper primary education (Grades 6 and 7) would be more willing to address HIV/AIDS than their colleagues in lower primary education, across all three types of behaviors (future intentions, past school behavior and past community behavior) when contrasting teachers with high consistent behavior with those in the no behavior category. Teachers in upper primary were more likely than those in lower primary to demonstrate high consistent intentions to address HIV/AIDS and high consistent past school and community behavior.

Support was not found for the part of the hypothesis that contended that secondary school teachers would also be more likely to exhibit all three behaviors. In fact, in terms of future intentions and community behavior, secondary school teachers did not differ significantly from the lower primary teachers. And, contrary to what was expected, in the case of school behavior secondary school teachers were actually less likely than lower primary teachers to have limited intentions of addressing HIV/AIDS. Overall the evidence therefore suggest that there is no difference between secondary and lower primary school teachers, and that where it exists – as is

the case for past school behavior - secondary school teachers are actually less likely than their colleagues working at lower primary level to demonstrate limited behavior.

Discussion and implications

Many of the informants in the pilot phase of this study had made general statements about teachers in general being unwilling to talk about HIV/AIDS, but did not make any distinction between the level at which teachers teach. None of the studies reviewed in the context of this dissertation examined willingness to communicate about HIV/AIDS across different teaching levels. This study suggests that the level at which teachers teach most certainly impacts on their willingness to communicate about HIV/AIDS. Given the distinct difference between willingness at upper primary and the lower primary on the one hand, and secondary primary on the other, it becomes important to further examine the reasons for these differences. The personal interviews conducted with teachers in the context of this study provided some indications of reasons for differences, but there may be many other reasons. Further research is therefore needed to identify the factors that influence this difference.

This result of the present study is in itself troubling, given the priority that is being placed on the children between 6 and 14 years of age (the “window of hope”) by international organizations and various governments in recognition of the fact that it is important to reach children before they have their first sexual experience and when they are still forming attitudes about HIV/AIDS and related issues. Given the high indices of repetition and drop-out in schools in Mozambique, most of this target group will be in lower primary, rather than in upper primary, and may never make it as far as upper primary therefore missing out on the opportunity of acquiring knowledge and skills that will allow them to protect themselves against HIV/AIDS later on in life. Future research should therefore also focus on identifying ways and means of integrating age-appropriate and relevant HIV/AIDS messages into lower primary education and into the messages that children get in other informal settings such as in the community.

Attitude Functions

The final hypothesis of the study concerned attitude functions. Since value expressive attitude functions reflect perceptions of moral consequences of talking about HIV/AIDS, it was hypothesized that teachers who hold weak value expressive attitude functions (i.e. who are less concerned with moral issues) would be more willing to address HIV/AIDS than those who hold strong value expressive attitude functions.

Conclusions

This hypothesis was supported across all three types of behavior. With respect to future intentions, only those teachers who believed values were not important demonstrated a consistently greater intention to discuss HIV/AIDS. In the analysis of past school and past community behavior, both teachers who believed values are not important, as well as those who believed values are moderately important demonstrated consistently higher behavior in those two settings when compared with their colleagues who declared not having talked about HIV/AIDS at all in the past month.

Of the six attitude functions identified in the pilot phase of the study, two further attitude functions emerged as predictors in the incidental findings of the study, namely utilitarian attitude functions and socio-defensive attitude functions. In both cases, teachers with high utilitarian and socio-defensive attitude functions were more likely to intend to talk about HIV/AIDS in the future, and to do so in the school setting. No link was found between these two attitude functions and past community behavior. The other attitude functions, namely socio-adjustive, ego-defensive, and knowledge functions did not influence future intentions and past school and community behavior.

Discussion and implications

Attitude function theory has been applied to HIV/AIDS only to very limited extent. Previous studies have used attitude function theory to examine attitudes that people hold with regard to people with AIDS (Herek & Capitano, 1998; Reeder & Pryor, 2000). None of the research reviewed in preparation for this study had used attitude function theory to predict teachers' willingness to talk about sex and condoms in schools.

The findings presented here suggest that attitude functions may constitute a useful avenue for gaining more detailed insight into the specific reasons why teachers may decide not to address this topic. In practical terms, the findings of the study suggest that if teachers hold different attitude functions toward talking about sexuality and condoms, then communication activities, training campaigns, and other activities may need to be tailored to these attitude functions by taking the attitude functions as a starting point for designing messages.

This study looked only at attitude functions with respect to talking about sexuality and condoms with students, since this was identified as major bottleneck for teachers during the pilot phase of this study. Future studies should continue to investigate the usefulness of attitude function theory in predicting other HIV/AIDS related behaviors, such as attitudes toward involving parents and communities, and attitudes toward talking about people with HIV/AIDS. In addition,

having identified the various attitude functions, it becomes necessary to identify interventions that make it possible to either select teachers on the basis of their predominant attitude functions, or to work on means of promoting attitude change. One useful avenue would be to examine whether attitude functions differ among teachers (and other population groups) of different ages, with different levels of training/teaching experience, and with different levels of experience with HIV/AIDS.

Various categorizations of attitude functions exist in the literature. This study hypothesized that in addition to the traditional “catalogue” of attitude functions that has found consistent support in the literature (knowledge, utilitarian, ego-expressive, socio-adjustive and value-expressive attitude functions) a sixth attitude function would be present, namely a socio-defensive function. The socio-defensive attitude function was operationalized as representing a concern with defending others and a fear for the fate of the community and society at large, if HIV/AIDS is not addressed. Support was found for the existence of this particular attitude function and for its capacity to predict teachers’ willingness to communicate about HIV/AIDS in terms of future intentions and past school behavior. Future studies should seek to find further support for the existence of this attitude function and identify to what extent this attitude function is present in other population groups.

In general, the present study finds support for the usefulness of using attitude functions in examining behavior among teachers. This suggests that attitude functions may have applications beyond the areas in which it has been applied to date.

Overall Concluding Remarks and Recommendations

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. Furthermore 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. Furthermore, by 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.

The following general lessons can be drawn from this study for further research:

- 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 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 should also examine the extent to which past behavior predicts future behavior.
- There is a need to adapt/develop/test theories and models of behavior change that take into account the complexity and specificity of developing contexts.
- Qualitative research efforts should focus on collecting personal accounts of teachers (and other members of the community) and on transforming these into materials/messages that can be used as part of training exercises and communication campaigns.
- This study found that an astonishing number of myths are associated with condoms and condom use. Given that condoms provide the only secure protection against the disease, it is of paramount importance that research be conducted to flesh out these myths and that HIV/AIDS awareness and training campaigns take up the challenge of addressing and dispelling them.
- 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.



Figure 1 - A tuberculosis patient asking a question at a session about HIV/AIDS

There are also a number of potential implications for policy and practice that merit consideration. The predominant view amongst decision makers and educational planners who were contacted prior to this study was that teachers in general were not interested in talking about HIV/AIDS and that individual differences between teachers were not likely to be of great importance. This study finds strong support for the fact that these differences are, and can be, determining factors of teachers' behavior with respect to

communicating about HIV/AIDS. In light of this, the following suggestions are made:

- More and better teacher training and support: The predominant approach in Mozambique and other countries has been to train as many teachers as possible. This study suggests that certain teachers may be better predisposed to the task of talking about HIV/AIDS than others and that an effective strategy would need to include investing time and resources upfront in identifying these teachers.
- Flexible and adaptable training materials: The predominant approach in training teachers has been a standard package. The results of this study suggest that training courses, materials and support for teachers need to be developed in a flexible and modular form to take into account the individual differences between teachers. In addition, learning resources for teachers and students should be generated on the basis of local experience and local examples. This will make it possible to start breaking the silence around the disease and to convince teachers, students and the community at large that HIV/AIDS is a problem that affects “us” and not them.
- Targeted information for students at all levels of the education system: Concerted efforts need to be made to ensure that age-appropriate HIV/AIDS content is developed for lower primary education. Currently very few teachers talk about HIV/AIDS in lower primary grades, and when they do so this happens in veiled terms. Teachers need to have materials and adequate training that will allow them to address this topic in a creative and positive manner. The same needs to happen for secondary education.
- Greater involvement of teachers: This study demonstrates that teachers have much to contribute to the HIV/AIDS debate. This study is one way of making their voices heard, but other ways need to be found in order to break the culture of silence that surrounds the disease. Possible ways of doing so include organizing support groups, telling teachers’ stories on community and national radio programs, generating local newsletters in which teachers can (anonymously) talk of their experience. At the same time, teachers indicated that they have a great need for more information, and for more complex information. Cost effective local resources need to be identified and put in place that will make it possible, on the one hand, for teachers’ experience to become part of the HIV/AIDS campaign and, on the other hand, to allow teachers to have access to resources and information that they need.
- Rethinking of HIV/AIDS awareness campaigns: According to teachers in Mozambique, the dominant message of HIV/AIDS campaigns is one of pessimism and fatalism. Messages need to be developed that address the complexity of the situation that teachers (and other members of the community) face but also that provide practical suggestions/ solutions for the very real situations that teachers find themselves in.
- Support for teachers: This study leaves not doubt that HIV/AIDS is having a heavy impact on teachers. If teachers are to play an important role in helping to fight the disease it is also paramount that resources be made available to support teachers who are affected and

possibly traumatized by their experiences. In this context it is of key importance that the Ministry of Education takes a more proactive role in reaching out to teachers and in generating an environment which guarantees that HIV positive teachers can find support and understanding for their situation.

- Optimal use of teachers' personal experience: Teachers' personal experience and the way in which some teachers analyze these experiences and integrate them into their teaching suggest that there is potential for teachers to be involved in amateur HIV/AIDS research.

Limitations of the Study

There are several limitations of this study that merit attention:

- 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.
- 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.
- The study relied entirely on self-report by teachers and it was not possible to check the veracity of their declarations against other measures of their behavior in schools. 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.
- The study was conducted in southern Mozambique only, where teachers tend to be better trained than teachers in the central and northern 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 beyond the teachers in the five districts of Gaza province that were covered by this study.