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Communicating about HIV/AIDS – how attitude functions impact on teachers' willingness to talk about condoms and sexuality

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Paper approved by the Intercultural and Developmental 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

Teachers have been given a major role in creating awareness of HIV/AIDS and in ensuring that young people have the knowledge and skills to protect themselves. This study examines the extent to which attitude functions towards talking about condoms and sexuality impacts on teachers' willingness to address HIV/AIDS in school and community settings in Mozambique. Data were collected through a survey among a stratified sample of 606 primary and secondary school teachers.

The results of the study provide support for the fact that attitude functions selectively impact on teachers' willingness to talk about HIV/AIDS in Mozambique and suggest that a better understanding of attitude functions may improve communication messages and bean important input into training and support of teachers. Using multinomial logistic regression the study found that teachers holding weak or moderate value expressive attitude functions were more than twice as likely to have talked about HIV/AIDS in their school and in their community in the past month and to intend to do so in the future, than those holding strong value expressive attitude functions. A similar relationship was found between strong and moderate utilitarian attitude functions and both past school and community communication behavior as well as future intentions. A third - socio-defensive - attitude function impacted on past communication behavior in schools and on future intentions, but not on past behavior in communities. Possible implications for support to teachers as part of HIV/AIDS prevention and awareness are discussed.

Background

HIV/AIDS has spread hard and fast in Africa over the past two decades, and over seventy percent of all new HIV infections now take place in Africa. Sub-Saharan Africa has been especially affected, where several countries, such as Botswana, Malawi and Swaziland, have reached adult prevalence rates of 30% and over (UNAIDS, 2003).. 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 (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 an important part of social networks and are ideally situated to reach children as well as young people. Teachers can 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. It is particularly the children between 5 and 14 that are considered the "window of hope" (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). Also teachers are found where other services (such as health facilities) are not available (Kelly, 2002).

However, in spite of the important role that has been accorded to teachers, 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). In general there appears to be an implicit assumption on the part of policy makers and practitioners in education and other key sectors that provided teachers are given basic conditions, they will - regardless of their individual characteristics and of contextual issues - ensure that students know what they need to know in order to effectively protect themselves (Coombe, 2002). As a result far too little emphasis has been placed on teacher support even though there is evidence that training and support can contribute to better understanding and more positive attitudes toward that disease by teachers (c.f. Chifunyse, Benoy, Mukiibi, 2002).

This study will seek to make a contribution to improving the understanding of the role of teachers by focusing on how attitudes – and in particular attitude functions - affect teachers' willingness to talk about HIV/AIDS in the extended school and community setting. In acknowledgment that the integration of models and theories in studies of this nature in developing settings is generally lacking (Kelly, 2003), a theoretical framework - Attitude Function Theory - was used as basis for inquiry.

Literature Review

Teachers and HIV/AIDS

Research on HIV/AIDS education in schools has focused predominantly on knowledge, attitudes, and intended or actual behavior of children rather than that of teachers (cf. Horizons, 2001; Venier, Ross & Akande, 1997; Nwokocha & Nwakoby, 2002; Brook, 1999; Sikand, Fisher & Friedman, 1996; Davis, Noel, Chan & Wing, 1998; Mkumba & Edwards, 1992). Only very few studies have examined key issues such as teachers' knowledge, attitudes and behavior with regard to HIV/AIDS education (Action Aid, 2003). As a result most of what is known about what happens in school in terms of communication about HIV/AIDS is based on anecdotal evidence (Kelly, 2000).

The limited studies that have been conducted, however, indicate that the record on teachers' input and commitment to HIV/AIDS prevention is mixed. In the studies reviewed, there are indications that teacher capacity and willingness to talk about HIV/AIDS are influenced by a variety of factors among which the fact that curricula are either unclear or overloaded (Kelly 2002), that there is a general lack of adequate guidance and teacher support (Malambo, 2000; Kelly, 2003; Action Aid, 2003), that the culture of silence around the disease makes it difficult to address this topic (Macintyre, Brown & Sloser, 2001), that teachers in some cases have fears about reactions of communities if they talk about HIV/AIDS and in particular about sex (Visser, 2002), and that attitudes towards the disease and in particular towards talking about sensitive issues such as sexuality may impact on teachers intentions to discuss the topic and on the content that they address (c.f. Lin & Wilson, 1998; Chiwela & Mwape, 1999; Molambo, 2000). These studies also show that as the pandemic grips whole communities, teachers themselves are becoming affected by the disease (Coombe & Kelly, 2001).

Attitudes have emerged quite consistently from this research as a key variable. 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). Two separate qualitative studies by Chiwela and Mwape (1999) and Molambo (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). And 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 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).

Collectively these studies indicate that a better understanding of the attitudes that teachers hold may be essential to improving the role that education plays in HIV prevention.

Functional theory

Functional theory addresses the motivations that underlie attitudes that people hold (Katz, 1960). The main assumption of functional theory is that people hold attitudes for a reason, i.e. that they serve a specific psychological function.

Functional theory seeks to distinguish between the different motivations that underlie the attitudes that individuals hold. Various forms of categorization exist in the literature and research in this field and a definitive catalog will probably never be drawn up. Two broad categorizations exist, namely the diversified approach to attitude functions and the dichotomous approach – also termed the "neo-functional approach" in Ressler and Toledo (1997). The diversified approach acknowledges the existence of a larger set of attitude functions, including: *utilitarian* attitudes that help people organize perceptions of environment in a manner that allows them to obtain rewards and avoid punishment; *social-adjustive* attitudes that help mediate interpersonal relations; *value-expressive* attitudes that express values important to the self-concept; *ego-defensive* attitudes that protect the self from anxiety and attacks on self-esteem; and finally attitudes that serve a *knowledge* function by satisfying the individual's need for cognitive learning (Herek, 2000).

The dichotomous approach, on the other hand, emphasizes two broad categories of attitude functions, namely the evaluative and expressive function (Herek, 1986; Herek & Capitanio, 1998; Herek, 2000). Expressive functions are served by symbolic attitudes and are "broadly defined as being related to affirmation of identify and enhancement of self esteem" (Herek & Capitanio, 1998, p.231). In this case the object of the attitude serves primarily as a symbol. The evaluative functions, on the other hand, are seen as "reflecting an underlying need to understand the social world and are based primarily on self-interested appraisals of the attitude object" (Herek & Capitanio, 1998, p.231).

Applications of Attitude Function Research

Although attitude function theory enjoyed popularity in the 1960's, it is only in the last ten years or so that the development of precise measurement techniques has led to the exploration of the usefulness of this concept in a variety of contexts. More recently attitude functions have been used in the study of a variety of social issues. Wyman and Snyder (1997), for example, examined attitudes towards the lifting of the ban on homosexuals in the military and found that respondents who felt the ban should be lifted, rejected ego-defensive reasons for keeping it and endorsed value-expressive reasons to eliminate the ban.

A key concept in attitude research is that of the attitude object. Greenwald (1989) points out that the concept of an attitude object has been widely interpreted in the realm of attitude research,

relating to such aspects as “sensory qualities” (colors, texture), “concrete objects”, “abstract concepts” (such as personality traits), “verbal statements”, “systems of thought” (such as ideologies), and “actions” (1989, p.4). In the realm of communication, various studies (Petty, Wheeler, & Bizer; 2000) have found support for the fact that if a message has a strong link with the function an attitude serves for a particular segment of the audience, then the message will be more persuasive and, therefore, more likely to influence behavior or behavioral intent (cf: Snyder & DeBono, 1985).

Not only does functional matching appear to increase the persuasiveness of a message, it also affects perceptions of its validity, as attitude functions may determine for individuals which types of evidence they consider relevant when they are exposed to persuasive information (Thompson, Kruglanski, & Spiegel, 2000). The theoretical underpinnings for this process of linking attitude functions and cognitive/message processing have been based on the Elaboration Likelihood Model (ELM). Indeed, functional matching of a message with relevant attitude functions can enhance message processing through both the peripheral or central route - in the former case by serving as a cue and in the latter case by serving as a motivation for biased processing (Petty, Wheeler, & Bizer; 2000).

Experiments conducted by various researchers (cf: Petty & Wegener; 1998; Marsh & Julka, 2000) have shown that messages that have a strong match with the attitude function, even on sensitive issues such as, for instance, organ donation, will receive more scrutiny, and that the manner in which the message is manipulated is important. For example, it appears motivational inductions lead to stronger matching effects and stronger changes in attitudes than do priming manipulations (Marsh & Julka, 2000). In this manner, for example, people who are provided with a strong value-based and tailored message about organ donation followed by an exercise in which they have to rank these values, will shower stronger value expressive attitudes than those who received a simple priming message (Marsh & Julka, 200). Further research (Petty, Wheeler, & Bizer; 2000) has found preliminary support for a link between certain attitude functions (e.g. social-adjustive) and personality types (high self-monitors).

The attitude function approach has provided interesting insights into other areas of social interest. In the realm of smoking a number of recent studies have looked at attitudes as important predictors of smoking (Piko, 2001; Ragon, 1999; Visser, Arpan & Heald, 2003). The field of HIV/AIDS

has also provided interesting insights. At least two studies have found support for the fact that individuals hold attitudes towards persons with AIDS for a variety of reasons (Reeder & Pryor, 2000; Herek, 2000). Herek and Capitanio (1998) examined stigmatization of individuals with HIV/AIDS from the perspective of the dominant psychological function served by the attitude – i.e. either an evaluative attitude based on concerns for personal risk, or an expressive attitude based on the need to affirm one's self concept by expressing personal values – and discuss the implications of these findings for AIDS education. Consumer marketing too, has made use of attitude functions, for example in examining attitudes towards cars (Ennis & Zanna, 1993) and in advertising (Shavitt, 1990).

One of the main appeals of understanding different attitude functions is thus that if communication messages and interventions are tailored to the specific attitude functions that people hold, then it becomes much easier to address and influence those attitudes. By the same token, gaining insight into the attitude functions that teachers hold toward addressing HIV/AIDS could – if the present study supports this link - offers an intuitive and practical appeal since it would provide key information for the design of training courses, for putting in place communication messages and for providing support – all of which could be tailored to specific attitude functions.

Relevance of these Findings to the Present Study

The nature of the findings with regard to teachers that were reviewed above suggests that attitude functions may constitute a relevant route to understanding teachers' attitude toward HIV/AIDS and toward communicating about this topic. In the Action Aid study (2003) teachers' arguments for how they deal with the disease could be interpreted as reflecting a variety of attitude functions. In this study teachers in both India and Kenya used arguments of morality and religion which reflect value-expressive functions, i.e. functions that allow people to express their underlying beliefs and values (Katz, 1960). Teachers' arguments were also related to perceptions about that which is permissible within the context of the community and these could be argued to be indicative of a socio-adjustive attitude, where the individual defines his/her identity on the basis of identification or pressure from reference groups. Similarly arguments related to utilitarian functions could be found in these teachers' accounts, in particular in their references to condoms as a means of prevention.

In summary this study seeks to build on the limited prior research that has shown that attitudes have an important role in teachers' behavior and behavioral intent. The study aims at contributing to future education efforts by focusing on a target group that has been given an enormous responsibility in the field of HIV/AIDS awareness, but concerning which very little research has been done. Also – and given that only very little research on teachers is theory based - the study hopes to contribute to the knowledge base on teachers and HIV/AIDS by using a theoretical framework (Attitude Function Theory) as a basis for the inquiry.

Purpose and Hypotheses

Research among teachers has shown that attitudes are a key variable in decisions on communicating and teaching about HIV/AIDS. This study will build on those findings and examine to what extent attitude functions (Katz, 1960) contribute to teachers' willingness to communicate about HIV/AIDS in school and community settings. The study has the following hypotheses:

Hypothesis 1: Controlling for age and sex, teachers who hold weak value-expressive[1] attitudes toward talking about condoms and sexuality will be more willing to communicate about HIV/AIDS in school and community settings.

Hypothesis 2: Controlling for age and sex, teachers who hold strong utilitarian attitudes toward talking about condoms and sexuality will be more willing to communicate about HIV/AIDS in school and community settings.

Hypothesis 3: Controlling for age and sex, teachers who hold strong socio-defensive attitudes toward talking about condoms and sexuality will be more willing to communicate about HIV/AIDS in school and community settings.

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[1] Weak value expressive attitudes in this case refer those teachers who consider the issue of moral values (morality) as only marginally important when talking about condoms and sexuality.

Hypothesis 4: Controlling for age and sex, teachers who hold strong socio-adjustive attitudes toward talking about condoms and sexuality will be more willing to communicate about HIV/AIDS in school and community.

Methodology

Survey design

A number of focus groups were conducted with teachers to assist in understanding the specific nature of their attitudes and to provide key information for the design of the survey. The analysis of the results of the focus groups indicated that two classes of attitudes are particularly important to teachers in Mozambique, namely: "talking about sexuality and relationships" and "promoting/talking about condoms". Since attitude functions have been shown to have best predictive power when they are very specifically formulated (Herek, 2000) it was considered important to narrow the broad concept of attitude/willingness to communicate about HIV/AIDS down to more specific issues that were identified as crucial to teachers' attitudes to discussing HIV/AIDS with their students. Following procedures suggested by Herek (1987) and used by other researchers (c.f. Visser, Arpan & Heald, 2003), attitude solicitation surveys were developed and administered to primary and secondary school teachers to generate items for attitudes related to HIV/AIDS.

Attitude statements on both of these classes of attitudes were collected by asking a total of 161 teachers to fill out an open-ended attitude solicitation questionnaires. Participants received a questionnaire asking them to generate as many statements as they could think of "why it may be ok" and "why it may not be ok" to promote the use of condoms/talk about sexuality in schools.

Over 400 statements were generated and subsequently coded by two coders to reflect one of the six main attitude-function categories: utilitarian, social-adjustive, value-expressive, socio-defensive, ego-defensive and knowledge. Coding categories were developed from a random sample of 20 attitude solicitation surveys from the pool of 161. These attitude solicitation surveys were analyzed by both coders and the results were summarized into the following coding scheme which was subsequently used to code the remaining responses.

Table 1: Summary of coding scheme for attitude functions

Attitude function	Definition
Utilitarian	Refers to individual health concerns (particularly those that ensure protection against disease) and to other personal perceived benefits, such as those related to personal professional responsibilities (e.g. the benefit of complying with requirements from the Ministry of Education or of participating in an HIV/AIDS course).
Socio-adjustive	Reflect a concern about fitting in with the beliefs/attitudes of society at large, parents, other teachers, and significant community members.
Value-expressive	Reflects self-identify and moral, religious and other beliefs.
Ego-defensive	Reflects defense mechanisms and fear for self or fear of condemnation by other people (Katz, 1960). Includes items that reflect a preoccupation with protecting oneself from the psychological distress associated with the threat posed by other groups of people, e.g. people with HIV/AIDS.
Socio-defensive	Reflects a concern with defending others and a fear for the community and society at large. Evidence of a preoccupation (in the form of the presence of social consciousness) with minimizing the impact of the disease for others.
Knowledge	Reflects a new learning experience and allowed teachers to apply structure and cognitive understanding to the world around them.

With the exception of the socio-defensive function which was specifically identified and operationalized during the course of this study and has not been previously mentioned in the literature, these are all categories that have been used in prior research on attitude functions (c.f. Herek, 2000; Snyder & DeBono, 1985).

After all items related to attitude functions were coded and inter-coder reliability was calculated (Kappa coefficient which ranged from 0.68 for the ego-defensive function and 0.87 for the socio-defensive attitude function) and considered acceptable[2], the items (or arguments/themes) that appeared most frequently in each category were selected for the final questionnaire.

Predicted Variables

Focus groups conducted in the pilot phase of the study revealed 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

[2] In new developing areas such as this one it is often especially difficult to attain high inter coder reliability since coding schemes are still being developed. In addition, the statements that were being coded were lengthy and required a certain amount of interpretation which typically lowers reliability estimates (Wimmer & Dominick, 2003).

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[3] 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” 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 2: 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	Intention to talk between one and three times in the next	Intention to talk four or more times in the next four weeks

[3] 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.

Variable/ behavior	"No behavior"	"Limited behavioral consistency"	"High behavioral consistency"
	in the coming four weeks	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

Predictor variables

The predictor measure refers to the predominant type of attitude function (utilitarian, socio-adjustive, socio-defensive, ego-defensive, value-expressive and knowledge) that respondents hold towards promoting the use of condoms and discussing sexuality in schools. A total of 64 items, with four positive and four negative items for each attitude function were developed during the pilot phase to measure attitude functions. Each question asked respondents to indicate to what extent they agreed with a series of statements which started either with "it is ok to", and "it is not always ok to". The response set for each statement covered the following options: (1) "strongly agree"; (2) "somewhat agree"; (3) "neither agree nor disagree"; (4) "disagree partially"; (5) "don't agree at all".

An initial factor analysis using Principal Component Analysis (PCA) with all 64 items revealed the presence of 14 factors, explaining 58% of the variance. However a large number of the items used for the factor analysis showed almost no variance in the response and were highly skewed. Since this solution did not provide an adequate reflection of what was expected from theory and prior studies (and given the problems identified with the items) it was decided to retain the 25 items from with communalities greater than 0.6 for subsequent analysis.

A second factor analysis with the 25 selected items resulted in a six factor solution explaining 54% of the variance. It was decided to retain the six factor solution (see Table in Annex 1). This decision was based various considerations. First all six factors had an eigenvalue greater than one, suggesting six factors according to the Kaiser rule. Furthermore examination of the scree plot suggested the possibility of five through seven factors but experimentation with different solutions still indicated that the six factor solution was acceptable. A final consideration was that the six factors could be meaningfully interpreted after rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling

adequacy was 0.88, and the Bartlett's test of sphericity yielded a X2 of 4173 with df = 325 and p < 0.001).

In order to aid interpretation of the factors various rotations were attempted. Since it was believed that the factors in this domain would tend to be correlated, an Oblique rotation was retained which exhibited some degree of simple structure with most variables loading on only one factor. The table below summarizes the final PCA solution, a brief discussion of the characteristics of each factor follows.

The first factor measured a socio-adjustive attitude and had an alpha reliability of 0.77. Seven items loaded on this factor at a value of 0.56 or greater. This factor had an eigenvalue of 4.6 and explained 24% of the variance. All items related to the reactions of parents (for example: "in my opinion it is not good to talk about condoms/sexuality in schools because parents will say we are teaching children to be promiscuous"), community ("in my opinion it is not good to talk about condoms/sexuality in school because the community will say we are teaching kids to be naughty"), and other social groups ("in my opinion it is not good to talk about condoms/sexuality in school because members of the community will say we are being a bad influence on girls") to talking about HIV/AIDS in schools.

The second factor was clearly related to a utilitarian attitude and had an alpha reliability of 0.73. Four items loaded on this factor, three of these with values of 0.71 or above and one with a value of 0.55. The eigenvalue of this factor is 2.794 which explained 11% of the variance. The items on this factor related to questions concerning whether condoms effectively protect against AIDS and other diseases ("in my opinion it is not good to talk about condoms/sexuality in school because some condoms spread disease", "in my opinion it is not good to talk about condoms/sexuality in school because some condoms are contaminated"), that condoms may tear ("in my opinion it is not good to talk about condoms/sexuality in school because sometimes condoms may be badly made or may tear"), and that they may create discomfort ("in my opinion it is not good to talk about condoms/sexuality in school because sometimes condoms may get lost inside a woman").

The third factor related to a value expressive function with an alpha reliability of 0.72. Four items loaded on this factor, all with values of 0.69 and above. The factor had an eigenvalue of 1.672

and contributed to 6.4% of the variance. Items that loaded on this factor were related to agreement with the fact that “it is good to talk about condoms/sexuality in schools because “it stops the spread of polygamy”, “it promotes abstinence from sexual activity”, “reduces prostitution among young people”, and “reduces promiscuity and sexual abuse”.

The fourth factor was related to the ego-defensive function with an alpha reliability of 0.69. Three items loaded on this factor, two with a high 0.72 or above, and one at 0.53. This factor has an eigenvalue of 1.3 and contributes to 4.9 % of the variance. Items included “in my opinion it is not good to talk about condoms/sexuality in school because some people will become very nervous”, “in my opinion it is not good to talk about condoms/sexuality in school because it creates anxiety and panic in communities”, and “in my opinion it is not good to talk about condoms/sexuality in school because people who hear the disease exists may want to commit suicide”

The fifth factor illustrates the presence of a socio-defensive function with an alpha reliability of 0.74. This function emerged clearly from the analysis of the attitude solicitation surveys but is the only one in the list that is not otherwise discussed in the attitude function literature. Four items contribute to this factor two of which have values of 0.58 and 0.59 respectively, and the other two of which have values greater than 0.7. All items relate to the perceived consequences from a broad social perspective of the spread of HIV/AIDS (“in my opinion it is not okay to talk about condoms/sexuality in school because there are people who will spread the disease on purpose”, “in my opinion it is not okay to talk about condoms/sexuality in school because it has a negative impact on society and public places”, “in my opinion it is not okay to talk about condoms/sexuality in school because it stops the economy from growing”, and “in my opinion it is not okay to talk about condoms/sexuality in school because it reduces the number of workers”). This factor has an eigenvalue of 1.2 and explains 4.4% of the variance.

The sixth and final factor illustrates the presence of a knowledge function. Three items loaded on this function with a value of 0.6 and above. This factor has an eigenvalue of 1.1 and explains 4.2% of the variance of the model. The items loading on this factor related to the knowledge that condoms “stop the spread of HIV/AIDS” and “avoids unwanted pregnancies”. The third item that loaded on this factor was related to reducing the fear of children of being contaminated with HIV/AIDS.

Overall the alpha reliabilities for each factor were acceptable given that this is an emerging area of research. Factor correlations among the six factors in the oblique solution were weak to moderate as shown in Annex 1. The six factors were saved as factor scores for subsequent data analysis.

Data collection

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 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.

For the purpose of data analysis of the attitude functions three groups of equal size were created, with the lowest 33.3% of respondents being labeled as “weak” for that particular attitude function, the middle 33.3% as “moderately important”, and the highest group as “highly important”.

Results

Characteristics of the Respondents

A total of 606 current or future primary and secondary school teachers for Grades one through twelve[4] 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. Well over one third of the teachers (39.8%) had no professional qualifications. 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.

[4] 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).

H 1: Using Value Expressive Attitude Function to Predict Willingness to Communicate about HIV/AIDS

An extensive qualitative study among teachers in India and Kenya (Action Aid, 2003) indicated that the extent to which teachers believe that talking about condoms and sexuality is an issue of values affects their approach to teaching about HIV/AIDS. 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.

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 3a) the overall model is statistically significant (log likelihood 139.575, $X^2 = 37.548$, df = 10, $p < 0.001$).

Table 3a: MLR Analysis: Using the Value-Expressive Attitude Function to Predict Teachers' Future Intentions to Talk About HIV/AIDS

Model	-2 Log Likelihood	Chi-Square	df	Sig.[a]
Intercept Only	177.123			
Final	139.575	37.548	10	***

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

Intention (3 Levels) to Talk About HIV/AIDS in the Coming Month [a]		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.948	.602	1.492
	Male	0				
	Age 25 and under	1	***	4.572	2.503	8.352
	Age 26 - 35	1	***	2.705	1.614	4.534
	Age over 35	0				
	Values not important	1	**	2.086	1.195	3.643
	Values moderately important	1		1.430	.835	2.450
	Values very important	0				
Limited behavior	Intercept	1				
	Female	1		1.016	.631	1.636
	Male	0			.	
	Age 25 and under	1	***	2.948	1.573	5.525
	Age 26 - 35	1	*	1.806	1.057	3.085
	Age over 35	0				
	Values not important	1		1.310	.733	2.340
	Values moderately important	1		1.023	.586	1.785
	Values very important	0				

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

Controlling for sex and age, when comparing teachers who have high consistent intentions to talk about HIV/AIDS in the coming month with those who do not intend to do so, teachers who declared that values were not an important consideration are 2.1 times ($p \leq 0.05$: 95% C. I., ORs = 1.2 – 3.6,) more likely to demonstrate high consistent behavior than teachers for whom values are very important.

The second type of behavior examined was **past behavior in schools** (table 3b). 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 value expressive attitude function to predict past behavior in schools is statistically significant (log likelihood 139.731, $X^2 = 27.862$, df = 10, $p < 0.01$).

Table 3b: MLR Analysis - Using the Value-Expressive Attitude Function to Predict Teachers' Talking About HIV/AIDS in School in the Past Month

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	167.592			
Final	139.731	27.862	10	**

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

Talked About HIV/AIDS in School in Past Month (3 levels) [a]		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.886	.556	1.412
	Male	0				
	Age 25 and under	1	***	2.636	1.488	4.669
	Age 26 - 35	1		1.175	.679	2.034
	Age over 35	0				
	Values not important	1	**	2.163	1.206	3.880
	Values moderately important	1	**	1.913	1.068	3.427
	Values very important	0				
Limited behavior	Intercept	1				
	Female	1		1.326	.851	2.066
	Male	0				
	Age 25 and under	1	**	2.193	1.238	3.884
	Age 26 - 35	1		1.301	.778	2.175
	Age over 35	0				
	Values not important	1		.851	.494	1.468
	Values moderately important	1		.978	.581	1.646
	Values very important	0				

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

When comparing teachers with high consistent behavior in school with those who had not talked about HIV/AIDS teachers who considered values not important or only moderately important are 2.2 times ($p \leq 0.01$: 95% C. I., ORs = 1.2 – 3.9) and 1.9 times ($p \leq 0.01$: 95% C. I., ORs = 1.1 – 3.4), respectively, more likely to demonstrate high consistent behavior than teachers for whom values are very important.

A final multinomial logistic regression was run to determine the impact of the value-expressive attitude function on **past community behavior**. 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 139.731, X^2 = 27.862, df = 10, $p < 0.01$). Controlling for age and sex (Table 3c), teachers who said values were

either not important or who said values were only moderately important are 1.7 ($p \leq 0.05$: 95% C. I., ORs = 0.9 – 3.2,) and 1.9 times ($p \leq 0.05$: 95% C. I., ORs = 1.0 – 3.4) more likely, respectively, to have shown high consistent past behavior in taking about HIV/AIDS in the community.

Table 3c: MLR Analysis – Using the Value-Expressive Attitude Function to Predict Teachers' Talking About HIV/AIDS in the Community in the Past Month

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	167.402			
Final	143.709	23.694	10	*

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

Talked About HIV/AIDS in Community in Past Month (3 levels) [a]		df	Sig. 1 tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	**	.522	.312	.876
	Male	0				
	Age 25 and under	1	**	2.577	1.346	4.932
	Age 26 - 35	1	**	2.184	1.193	4.000
	Age over 35	0				
	Values not important	1	*	1.735	.927	3.248
	Values moderately important	1	*	1.873	1.019	3.442
	Values very important	0				
Limited behavior	Intercept	1				
	Female	1		1.001	.647	1.547
	Male	0			.	
	Age 25 and under	1	*	1.703	.991	2.927
	Age 26 - 35	1		1.093	.657	1.818
	Age over 35	0				
	Values not important	1		1.163	.682	1.985
	Values moderately important	1		1.324	.786	2.228
	Values very important	0				.

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

In summary, the hypothesis that weak value expressive attitudes would influence willingness to communicate about HIV/AIDS is supported across all three types of behavior (controlling for age and sex). Teachers who hold weak value expressive attitudes are thus more willing to address HIV/AIDS.

H 2: Using Utilitarian Attitude Function to Predict Willingness to Communicate about HIV/AIDS

Tables for the statistical analysis of this hypothesis (Tables 4a, 4b and 4c) can be found in Annex 2.

The overall model using the utilitarian attitude function to **predict intentions to talk about HIV/AIDS in the future** and controlling for age and sex (Table 4a, Annex 2) is statistically significant (log likelihood 136.711, X2 = 42.884, df = 10, $p < 0.001$). With respect to future intentions, the results show that teachers who hold a highly utilitarian attitude toward talking about condoms/sexuality in schools are 2.4 times ($p \leq 0.01$: 95% C. I., ORs = 1.6 – 4.2) more likely to intend to talk about HIV/AIDS in the coming month than those who hold a low utilitarian attitude.

The model using utilitarian attitude functions to predict **past behavior in school** (Table 4b, Annex 2) is also statistically significant (log likelihood 133.723, X2 = 27.144, df = 10, $p < 0.01$) and exhibit essentially. Comparing teachers with high consistent behavior with those who stated they had not talked about HIV/AIDS in school in the past month, teachers with a high utilitarian attitude are 2.2 times ($p \leq 0.01$: 95% C. I., ORs = 1.2 – 4.0) more likely to have talked about HIV/AIDS than their colleagues with a low attitude).

Finally, with respect to **community behavior** (Table 4c, Annex 2) the model using the utilitarian attitude function to predict past community behavior is also significant. However, analysis of the table reveals that the significance is based solely on the contribution of the age factor to the model, and that the utilitarian attitude function has no influence on the relationship.

In summary, the hypothesis that utilitarian attitudes would influence willingness to communicate about HIV/AIDS is supported across all three types of behavior (controlling for age and sex). Teachers who hold strong utilitarian attitudes are thus more willing to address HIV/AIDS.

H 3: Using the Socio-Defensive Attitude Function to Predict Willingness to Communicate about HIV/AIDS

A similar analysis to the above was carried out for the socio-defensive attitude function, using this attitude function to predict the three behaviors (and controlling for age and sex). The pattern for

this attitude function was identical to the previous attitude function, with the high socio- defensive attitude function predicting future behavior (log likelihood 136.002, X2 = 38.127, df = 10, $p < 0.001$ – see Table 5a, Annex 2) and past school behavior (Tables 5b, Annex 2) but not past community behavior. Thus comparing teachers with **high consistent intention of talking about HIV/AIDS in the future** to those who do not intend to talk about HIV/AIDS, teachers with high socio-defensive attitudes are 2.1 times ($p \leq 0.01$: 95% C. I., ORs = 1.2 – 3.8) more likely to intend to talk about HIV/AIDS. And comparing teachers with high consistent behavior to those who did not talk about HIV/AIDS **in school** in the past month, teachers who have high socio-defensive attitudes are 1.8 times ($p \leq 0.05$: 95% C. I., ORs = 1.0 – 3.1,) more likely to talk about HIV/AIDS than teachers with low socio-defensive attitudes (controlling for age and sex). Contrary to what was expected socio-defensive attitudes do not influence **past behavior of talking about HIV/AIDS in communities**.

H 4: Using the Socio-Adjustive Attitude Function to Predict Willingness to Communicate about HIV/AIDS

The final hypothesis of the study concerned socio-adjustive attitude functions. None of the models for this hypothesis were significant. There was thus no evidence of a link between this attitude function and future intentions or past school and community behavior.

Discussion

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.

Limitations

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.

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Annex 1

Final PCA Solution for Attitude Functions

Factor Pattern Matrix [a]

	Factors					
	Socio Adjustive	Utilitarian	Value Expressive	Ego Defensive	Socio Defensive	Knowledge
AVOIDDTS						.691
AVOIDPRE						.736
HAVEMICR		.710				
MAYTEAR		.759				
PANIC				-.718		
SPREADMO				-.775		
KIDNAUGH	.656					
SUICIDE		.550				
NERVOUS				-.526		
CONDDIS		.715				
KIDFEAR						-.490
ABSTAIN			.691			
POLYGAMY			.713			
MORALED	.719					
PROSTNOL	.563					
REDPROST			.693			
SEXABUSE			.747			
ONPURPOS					-.681	
PARPROST	.620					
IMORALTY					-.586	
REDWRKRS					-.769	
REDECNMY					-.845	
SOSCONS	.703					
IMPACT	.672					
TEACHOTH	.732					

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

a. Values smaller than 2.0 were ommitted from the table

Correlations Between Attitude Functions in Final Solution

Factor Correlations

Factor	Socio Adjustive	Utilitarian	Value Expressive	Ego Defensive	Socio Defensive	Knowledge
Socio Adjustive	1.000	.196	.344	-.135	-.278	.121
Utilitarian	.196	1.000	.145	-.255	-.388	-.112
Value Expressive	.344	.145	1.000	-.165	-.153	.800
Ego Defensive	-.135	-.255	-.165	1.000	.223	-.239
Socio Defensive	-.278	-.388	-.153	.223	1.000	.537
Knowledge	.121	-.112	.800	-.239	.537	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Annex 2

Table 4a: MLR Analysis: Using the Value-Expressive Attitude Function to Predict Teachers' Future Intentions to Talk About HIV/AIDS

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	177.123			
Final	139.575	37.548	10	***

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

Intention (3 Levels) to Talk About HIV/AIDS in the Coming Month [a]		df	Sig. 1-tail	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.948	.602	1.492
	Male	0				
	Age 25 and under	1	***	4.572	2.503	8.352
	Age 26 - 35	1	***	2.705	1.614	4.534
	Age over 35	0				
	Values not important	1	**	2.086	1.195	3.643
	Values moderately important	1		1.430	.835	2.450
	Values very important	0				
Limited behavior	Intercept	1				
	Female	1		1.016	.631	1.636
	Male	0			.	
	Age 25 and under	1	***	2.948	1.573	5.525
	Age 26 - 35	1	*	1.806	1.057	3.085
	Age over 35	0				
	Values not important	1		1.310	.733	2.340
	Values moderately important	1		1.023	.586	1.785
	Values very important	0				

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

Table 4b: MLR Analysis: Using Utilitarian Attitude Functions to Predict Teachers' Talking About HIV/AIDS in School in the Past Month

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	160.867			
Final	133.723	27.144	10	**

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

Talked about HIV/AIDS in School in Past Month (3 levels) [a]		df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.997	.626	1.589
	Male	0				
	Age 25 and under	1	***	2.926	1.643	5.211
	Age 26 - 35	1		1.170	.676	2.025
	Age over 35	0				
	Highly utilitarian attitude	1	**	2.214	1.237	3.961
	Moderate utilitarian attitude	1		1.303	.712	2.384
	Low utilitarian attitude	0				
Limited behavior	Intercept	1				
	Female	1		1.314	.843	2.050
	Male	0				
	Age 25 and under	1	**	2.197	1.237	3.901
	Age 26 - 35	1		1.308	.782	2.187
	Age over 35	0				
	Highly utilitarian attitude	1		.990	.569	1.723
	Moderate utilitarian attitude	1		1.037	.610	1.762
	Low utilitarian attitude	0				

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

Table 4c: MLR Analysis: Using Utilitarian Attitude Functions to Predict Teachers' Talking About HIV/AIDS in the Community in the Past Month

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	164.221			
Final	145.175	19.046	10	*

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

Talked About HIV/AIDS in Community in Past Month (3 levels) [a]		df	Sig. 1 tail	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1	**	.522	.312	.876
	Male	0				
	Age 25 and under	1	**	2.577	1.346	4.932
	Age 26 - 35	1	**	2.184	1.193	4.000
	Age over 35	0				
	Values not important	1	*	1.735	.927	3.248
	Values moderately important	1	*	1.873	1.019	3.442
	Values very important	0				
Limited behavior	Intercept	1				
	Female	1		1.001	.647	1.547
	Male	0			.	
	Age 25 and under	1	*	1.703	.991	2.927
	Age 26 - 35	1		1.093	.657	1.818
	Age over 35	0				
	Values not important	1		1.163	.682	1.985
	Values moderately important	1		1.324	.786	2.228
	Values very important	0				.

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

Table 5a: MLR Analysis: Using Socio-Defensive Attitude Functions to Predict Teachers' Future Intentions to Talk About HIV/AIDS

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	174.129			
Final	136.002	38.127	10	***

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

Intention (3 Levels) to Talk About HIV/AIDS in the Coming Month [a]		df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent intentions	Intercept	1				
	Female	1		1.086	.687	1.716
	Male	0				
	Age 25 and under	1	***	4.845	2.643	8.879
	Age 26 - 35	1	***	2.732	1.628	4.583
	Age over 35	0				
	High socio-defensive attitude	1	**	2.087	1.187	3.670
	Moderate socio-defensive attitude	1		1.152	.664	1.999
	Low socio-adjustive attitude	0				
Limited intentions	Intercept	1				
	Female	1		1.072	.663	1.733
	Male	0				
	Age 25 and under	1	***	3.002	1.599	5.637
	Age 26 - 35	1	*	1.802	1.054	3.082
	Age over 35	0				
	High socio-defensive attitude	1		1.390	.767	2.520
	Moderate socio-defensive attitude	1		1.098	.624	1.933
	Low socio-adjustive attitude	0				

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

Table 5b: MLR Analysis: Using Socio-Defensive Attitude Functions to Predict Teachers Talking About HIV/AIDS in School in the Past Month

Model	-2 Log Likelihood	Chi-Square	df	Sig. [a]
Intercept Only	166.711			
Final	141.158	25.553	10	**

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

Talked about HIV/AIDS in School in Past Month (3 levels) [a]		df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
High consistent behavior	Intercept	1				
	Female	1		.990	.622	1.577
	Male	0				
	Age 25 and under	1	***	2.754	1.556	4.874
	Age 26 - 35	1		1.176	.681	2.030
	Age over 35	0		.		
	High socio-defensive attitude	1	*	1.772	1.001	3.139
	Moderate socio-defensive attitude	1		1.161	.641	2.102
	Low socio-adjustive attitude	0				
Limited behavior	Intercept	1				
	Female	1		1.281	.820	2.001
	Male	0				
	Age 25 and under	1	**	2.170	1.224	3.845
	Age 26 - 35	1		1.295	.774	2.166
	Age over 35	0				
	High socio-defensive attitude	1		.771	.441	1.349
	Moderate socio-defensive attitude	1		.978	.580	1.649
	Low socio-adjustive attitude	0				

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