PRIMARY SCHOOL ACTION FOR BETTER HEALTH

12-18 MONTH EVALUATION VOLUME I of II

Project: Primary School Action for Better Health III
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EXECUTIVE SUMMARY

Communication and Pursuing Information

- Compared to wave 1 there were sizable and significant gains in pupil activity related to communication and pursuing information. This was greater in target than control schools and increased across waves of data collection.
- While at wave 1 pupils reported mass media as the **major source of information** about HIV and AIDS, by wave 2 and continuing in wave 3, teachers and school texts were ranked among the major sources of information.
- Pupils ranked teachers and school clubs as the **most useful sources of information.**
- For both boys and girls female relatives remained the preferred group for communication about sexual matters.
- Pupils in the Additional Teacher variation were more likely to report communicating with male relatives and community members than pupils in other variations.

Knowledge

- At wave 1 the average pupil knowledge scores were 50% (i.e. half of questions answered correctly) with no differences between control and target schools. There were no significant changes in these scores across waves of data collection.
- Analysis of focus group discussions however, suggested sizable and important gains in knowledge from wave 1 to wave 3.
- At wave 1 pupils evidenced considerable confusion and uncertainty about HIV transmission and protection. They were asking for teachers and other leaders to provide them with correct information. At wave 3, there was little misinformation. In addition, pupils were able to make logical deductions from and critical assessments of what they have heard, challenging the information they had received when it was inconsistent or illogical.
- Pupils appear unable to translate their knowledge into correct answers to true/false, yes/no questions.

Main Modes of Prevention: Abstinence

- At all waves of data collection teachers and community leaders presented abstinence as the only truly effective method of preventing transmission and acquisition of HIV.
- Over time teachers gradually incorporated specific teaching strategies to help pupils remain abstinent as well as increase their sense of personal control and efficacy when it came to sexual decision-making.
  - Sense of personal agency in making sexual decisions was higher among boys in Peer Supporter schools in Rift Valley than in the Rift Control schools.
- By wave 3 pupils and teachers alike were listing positive reasons for abstaining compared to wave 1 and still wave 2 when the main reason for abstinence was to avoid AIDS and death.
- Sexual Debut
  - In Nyanza:
    - The number of boys initiating sexual activity in the last year remained consistent across waves of data collection in target schools, however, in control schools there was an increase.

- For girls, there was a decrease in the number initiating sexual activity in the last year in both target and control schools with fewer reporting initiating in target than control schools at wave 3.
  - The results for Rift Schools were less encouraging. There was a significant decrease in boys in control schools (compared to target schools) reporting sexual debut at the final wave of data collection.
  - Reports of recent sexual activity did not decrease in any schools.

Main Modes of Prevention: Condom Use

- Wave 1 and 2 analyses suggested discouraging news about condoms. The content of messages delivered to youth was largely negative and at times inaccurate. Teachers struggled with the issue of condoms, not knowing how or if they should talk about them to pupils. Pupils recognized the discomfort on the part of adults but still looked to them for the truth about condoms.
- By wave 3, although teachers still did not publicly support teaching pupils about condoms there appeared to be more open talk of condoms with youth. While discussions tended to focus on persuading youth against condom use there were more hints of attempts by teachers to acknowledge the preventive nature of condoms for pupils who were already sexually active.
  - When speaking to sexually active youth some teachers said that although condoms were not perfect (i.e. were porous and had tiny holes), the youth must use them because they were the only chance they had to potentially prevent infection.
  - Teachers did tell youth that condoms were for adults for the purpose of family planning.
- In focus groups:
  - Pupils repeatedly questioned what they had been taught and demonstrated sound skills of logical thinking – e.g. if condoms are porous or have holes why do adults use them?
  - Pupils questioned the difference in messages heard on the radio, from hospitals and clinics and those heard in school.
  - Pupils asked numerous questions about condoms. This was the single topic about which they were most likely to want more information.
- At wave 3, pupils who were sexually experienced had more accurate knowledge about condoms and held more accepting attitudes about condoms than those who had never engaged in sexually activity. The difference was stronger in target than control schools.

PSABH Impact and Receptivity in Schools

- Teachers are:
  - Responding well and are taking up the programme in their schools.
  - Using the skills they were taught such as infusion and integration, participatory teaching and learning through song, drama, and debate.
  - Identifying fewer barriers to teaching about HIV and AIDS in target than control schools.
- There are a few complaints:
  - Book boxes take too long to get to the schools and a small number of schools still say they have none.

  - The training was 'dense,' i.e., a great deal of information in a short time.
- A sign of success is that control schools have been clamoring for training and many have found ways to get their teachers trained.
- As a result of teacher transfers, PSABH is being spread to new schools.

HIV and AIDS Programming in Schools

- The amount of HIV and AIDS programming in schools is higher:
  - The longer the programme has been in place;
  - In target schools than controls;
  - In schools with more trained teachers, i.e., programming is significantly higher in the Additional Teacher than in other target variations;
  - In schools with peer supporters than those with only trained teachers.
- 18 months after Course A, school characteristics such as standing on KCPE exams, pupil/teacher ratio, etc. no longer influence the degree of programming present in the school, i.e., given enough time, PSABH programming gets "up and running" equally well in schools with diverse characteristics.
- At wave 1 there was evidence of a strong sexual script whereby playing sex occurred in a series of progressive steps starting with a boy initiating contact with a girl and proceeding from there and ending in the act of playing sex. Pupils at wave 1 expressed lack of ability to redirect this script. At wave 3 however, there was considerable evidence from both quantitative and qualitative data to indicate that teachers were teaching specific strategies for resisting pressures to play sex thereby facilitating redirection of the sexual script. Interviews and focus group discussions provided substantial testimonials from pupils about such teaching.

Programme Variations

- There were few significant differences in the outcomes of the different variations; however, when there were differences, it was most often the Additional Teacher variations that fared the best.
- Health workers and church leaders were reported as visiting schools in each variation, however, they visited significantly more schools when they were specifically directed to as part of PSABH (health workers visited over 90% of schools in the Health Worker variation and church leaders visited 71% in their variation).
  - The topics discussed and the messages brought by health workers and church leaders were not influenced by PSABH training.
  - Both made abstinence the dominant prevention message.
  - In the minority of cases where health workers spoke about condoms, they provided factual information and addressed individual questions (e.g., they told girls that even if a condom were to come off and stay in their vagina it was not a cause for great concern and that they could easily remove it with their fingers).
  - Church leaders placed abstinence within a religious context, providing biblical and faith-based reasons for abstaining as compared to reasons focusing on 'fear of AIDS.'
- Peer supporters were well received by pupils and teachers alike and had a positive impact on the level of programming in the school and on pupil KAB.
  - Pupils rated peer supporters highly on all characteristics and tasks.
  - Peer supporters more than teachers were able to speak directly to pupils about:

- Personal concerns related to family, sex, boyfriends/girlfriends, and condoms;
- Dealing with pressures to be sexually active.

– Selection of peer supporters who can provide the best role models with respect to sexual activity is important. Pupils question when peer supporters say one thing and do another.

Overall

- PSABH is effective in getting HIV and AIDS programming into schools.
- Schools are receptive to PSABH training and programming.
- Teachers and schools readily accept and teach components of the PSABH programme with which they agree – e.g. abstinence and strategies for abstinence – but not those with which they do not agree – e.g. information about condoms.
- Considering both survey and focus group data there is evidence to support the conclusion that pupil knowledge, attitudes and behaviours related to HIV transmission are positively affected by PSABH.

INTRODUCTION

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme for primary schools. It is being implemented in Kenya by the Centre for British Teachers (CfBT) with funding from the Department for International Development (DFID). PSABH is a large, multifaceted endeavor. The core of the PSABH programme includes community sensitization, sensitization and negotiation of programme and evaluation components with provincial directors of education and other representatives of the Ministry of Education, two week-long training sessions with teachers and community representatives, a week-long training session with peer supporters, training of zonal inspectors, provision of book boxes to each participating school, publication of a newsletter and FAQ booklet, and organization of competitions between schools (Nyanza Basic Target – NBT)[1]. In addition, five variations of this core model have been tested:

- Training of one or more church leaders together with teachers (Church Leader - CL);
- Training of 2 additional teachers in schools, providing each school with a total of 4 trained teachers (Additional Teacher – AT);
- Sending a trained health worker to visit schools specifically to discuss HIV prevention and the role of condoms in prevention (Health Worker – HW);
- Training only teachers and community representatives, i.e., not peer supporters (Rift Teacher Only – RTO);
- Having schools take responsibility for a portion of the cost of training (Rift Peer Supporter Target – RPST).

To date the programme has been implemented in nearly 2000 schools with 160 schools in Nyanza Province and 60 in Rift Valley enlisted to participate in its evaluation.

This report addresses key evaluation questions:

> ***How successful has PSABH been in getting schools to take up various components of teaching about HIV and AIDS?***
>
> ***What is the effect of PSABH on the AIDS-related knowledge, attitudes and behaviours of standard 6 and 7 pupils?***
>
> ***What additional effects do five variations in the basic training model (Church Leader, Health Worker, Additional Teacher, Teacher Only, Peer Supporter Target - 'cost share') have on either programme uptake or pupil outcomes?***

The monitoring and evaluation is equally multifaceted and includes repeated surveys of teachers and pupils, in-depth interviews with teachers and community representatives, focus groups with pupils, and brief information-gathering survey tools and pregnancy data-forms completed by zonal inspectors during their school visits. The University of Windsor, Ontario, Canada designed the monitoring and evaluation and is analyzing the data, which are collected by zonal inspectors and by staff from Steadman Research Services Incorporated.

[1] There are also 2 control groups, one in Nyanza (Nyanza Control – NC) and one in Rift (Rift Control – RC).

This report summarizes findings based on 3 waves of data collected from teachers and pupils in Nyanza and 2 waves in Rift Valley:

- Pre-programme (wave 1);
- 6-9 month post-programme (wave 2); and,
- 12-18 month post-programme (wave 3)

Baseline, wave 1 data were collected in Nyanza in November 2001 (teacher and pupil surveys) and March 2002 (interviews and focus groups) and in Rift Valley in August 2002 (teacher and pupil surveys) and October 2002 (interviews and focus groups); 6-9 month post-programme data were collected in Nyanza in February 2003 (Rift Valley did not have a wave 2 data collection); 12-18 month post-programme surveys and qualitative data were collected in October 2003 in both Nyanza and Rift Valley. Variations were phased in throughout the 18 month period, therefore, these results represent:

- 18 month evaluation of the basic programme in Nyanza schools
- 12 month evaluation of the peer supporter variation in Rift Valley schools
- 9 month evaluation of the Health Worker and Additional Teacher variations in Nyanza schools and the Teacher Only variation in Rift Valley
- 2-9 month evaluation of the Church Leader variation in Nyanza schools

Collectively these provide a profile of how PSABH is working, the effects it is having, and the factors which influence these effects (for a complete sequence of activities see the chapter *Overview of Methodology*).

The complexity of the intervention and evaluation, the large number of schools involved, the phasing in of several interventions, and the desire to conduct both the intervention and evaluation in a 'real life' setting, i.e., with minimal interference in the events, activities and procedures of the community and school, present several challenges when trying to draw conclusions about programme effect. Several factors need to be kept in mind:

- The length of time that the PSABH programme was present in schools:
  - Schools in some variations had longer to implement the programme and to produce effects (Nyanza Basic Target was in place the longest, Church Leader variation the shortest). Thus, any potential variation effects are influenced not only by the specific intervention, but also by the amount of time they were in place.
- Differences between schools in Nyanza and Rift:
  - Differences in results in Nyanza and Rift may reflect any one, or a combination, of three factors:
    - The inherent differences between communities in these two regions,
    - The difference in the time that the programme was in schools in the two regions,
    - The self-selection of Rift schools into the programme on a shared cost basis compared to the assignment of Nyanza schools to either the control (no programme) or target (programme) group with costs of training in Nyanza born by the PSABH programme.
- Differences in the number of schools within each variation:
  - In two cases, the numbers are so small that results are potentially unstable (Nyanza Additional Teacher = 10 schools; Rift Control = 12 schools).
- Designation of control and target schools:
  - While the selection of schools for target and control groups insured that each target school had a geographically matched control school, not all control schools remained

'controls' and not all targets remained 'targets.' Some control schools were able to implement the PSABH programme either because of the transfer of trained teachers to their schools or because they found ways to get training for their teachers. Similarly, some target schools had limited, if any, capacity to implement the PSABH programme either because they lost their trained teachers due to death or transfer, or because they did not send teachers to training. As a result, the original stratified, matched sample was compromised. The Rift Valley sample was most seriously compromised. (*n.b.* Two of the peer supporter schools never had a control match and 8 control schools obtained training, leaving 10 of the peer supporter schools without a matched control.)

- PSABH is not the only HIV-education programme operating in schools in these two regions:
  - Schools reported having teachers trained, or having outside staff deliver programmes in their schools. These programmes used videos, classroom-based, and after-school activities. Both the control and target schools participating in this evaluation were exposed to a variety of such programmes.
- Lack of consistency in reporting:
  - There was a considerable absence of consistency in reports of zonal inspectors, head teachers and teachers with respect to:
    - whether teachers and peer supporters had been trained,
    - the number trained,
    - details of other HIV-education programmes in the schools.

This made it impossible to track or control for these extraneous and potentially confounding effects (discrepancies existed in the reports of training in 51 schools).

Collectively, these field situations mean that answers to the evaluation questions are, at best, equivocal.

This report has 2 Volumes: Volume I includes the following chapters:

- Overview of Methodology
- Community and School Profiles
- HIV/AIDS Activity in the Schools
- Variations: Health Worker and Church Leader
- Variations: Peer Supporter
- Knowledge
- Communication and Pursuing Information
- Main Modes of Prevention: Abstinence
- Main Modes of Prevention: Condoms
- PSABH Compared to Other SSA School-based Programmes
- Conclusions
- Appendix A which includes details of research and evaluation methods
- Appendix B which contains data tables to support results provided in the main body the report

Volume II includes:

- All survey and interview instruments used in collecting data
- Coding manuals that provide details of how scalar and composite measures were created

OVERVIEW OF METHODOLOGY

The objective of this section is to provide sufficient information about the research and evaluation methodology to understand the evaluation results. Full details of the methodology are provided in Appendix A. In addition, copies of all data collection instruments and codebooks for data transformation are contained in Volume II.

Monitoring, Research and Evaluation Design

A quasi-experimental design was used in programme evaluation. One hundred and sixty schools (80 target and 80 control) were selected in Nyanza using multi-stage stratified, disproportionate random matched-pair sampling. Sixty schools were selected in Rift Valley. Twenty schools that self-selected into PSABH training were matched with 20 schools that, at the start of the evaluation period, had not selected into training. An additional 20 schools that self-selected into training at a later date were assigned to a teacher-only training group, i.e., they were not provided with peer supporter training until after the evaluation period. Short-term evaluation results were produced using data collected in these schools at three time points in Nyanza and two in Rift Valley. Table 1 outlines the sequence of activities relevant to this report.

Table 1: Sequence of Activities

Date	Activity	Details
November 2001	Data collection – wave 1 Nyanza	Teachers and Pupils in 80 control and 80 target schools in Nyanza complete self-completion surveys (TSC and PSC respectively).
March 2002		Interviews and focus groups conducted in 8 control and 8 target schools & communities in Nyanza. Zonal Inspectors collect pregnancy data in 80 control and 80 target schools in Nyanza.
April 2002	Course A Training - Nyanza	Teachers and community representatives from 80 Nyanza target schools complete Training Course A.
July 2002	Data collection – wave 1 Rift	Wave 1 data collected in 20 control and 20 peer supporter schools in Rift.
August 2002	Interim data collection and Course A and B Training	Zonal Inspectors complete School (SRS) and Community (CRS) Responsiveness Surveys in all participating schools & communities in Nyanza. Teachers and community representatives from 80 Nyanza target schools complete Training Course B. Teachers and community representatives in 20 Rift Peer Supporter schools complete Course A.
September 2002	Creation of variations	Schools assigned to 8 variations: Additional Teacher, Health Worker, Church Leader, Nyanza Basic Target, Rift Peer Supporter Target, Rift Teacher Only, Rift Control, Nyanza Control

Date	Activity	Details
October 2002	Data collection – wave 1 Rift	Qualitative data collected in 6 (3 target, 3 control) Rift Valley schools.
December 2002	Peer Supporter Training	Peer supporters and teacher advisors from 80 Nyanza target schools complete training.
February 2003	Wave 2 data collection Nyanza	Teachers and pupils in 80 control and 80 target schools in Nyanza complete self-completion surveys (TSC and PSC) and interviews and focus groups are conducted in 4 target communities.
	Training for variations and Course B Rift	Training of additional teachers, health workers, church leaders and teacher only variations in Course A. Course B and peer supporter training for 20 Rift peer supporter schools.
March 2003	Interim data collection	Zonal Inspectors collect pregnancy data in 80 control and 80 target schools in Nyanza. Zonal Inspectors conduct School (SRS) and Community (CRS) Responsiveness data collection in Rift Control and peer supporter schools.
June 2003	Training	Course A training of final group of church leaders completed. Course B for Additional Teachers and Teacher Only variations.
August 2003	Interim data collection	Zonal Inspectors complete School (SRS) and Community (CRS) Responsiveness Surveys in 80 target and 80 control schools & communities in Nyanza.
October 2003	Data collection – wave 3	Teachers and pupils in all participating schools in Nyanza Province and Rift Valley complete self-completion surveys (TSC and PSC) and interviews and focus groups conducted in 10 communities.

Table 2: Time for Programme Implementation - Time From Training to Wave 3 (October 2003) Data Collection

Variation	Course A	Course B	Peer Supporter Training
	Time from Training to wave 3 Data Collection		
Nyanza Basic Target	18 mos	14 mos	10 mos
Church Leader	4-8 mos[a]	-	-
Additional Teacher[b]	8 mos	4 mos	-
Health Worker[b]	8 mos	-	-
Rift Teacher Only	8 mos	4 mos	-
Rift Peer Supporter Target	15 mos	8 mos	8 mos

a. Two training periods.
b. These variations were in addition to the training already received as part of the Basic Target model.

Unanticipated Events

Three unanticipated events influenced programme implementation and evaluation. First, not all target schools sent representatives to training and some control schools found ways to attend training. In addition, schools experienced a lengthy teacher strike in October 2002. Implementation of PSABH stopped during the strike and it is questionable whether it was taken-up again before the end of 2002 since schools had to give priority to preparation for December KCPE exams once classes resumed. Finally, in January of 2003, school fees were eliminated resulting in an influx of a large number of new pupils. This had a major impact on schools in this project. Over 2000 pupils in standards 6 and 7 who completed surveys in February 2003 reported that they had not been in school in 2002. In addition, the range of ages of pupils in these grades expanded by 6 years.

In consultation with Mary Gichuru and Janet Wildish of C*f*BT, it was decided that because of these events:

(1) Schools would be reassigned to target and control groups based on participation in Courses A and B.
(2) The pupil sample analyzed at wave 2 would be restricted to those who had attended school during 2002.[2]
(3) Only pupils between the ages of 11 and 17 years at the time of data collection would be included in analyses.

Data Handling

Steadman Research Services Incorporated organized data collection and entry and conducted surveys with pupils and teachers, interviews with teachers and community representatives and focus groups with pupils. They entered all survey data – including School and Community Responsiveness data and pregnancy data into SPSS databases and translated and transcribed interviews and focus groups. All data and transcripts were transmitted to the University of Windsor for analysis. SPSS was used in survey analysis and Scolari N5 and N6 for analysis of interviews and focus groups.

Measurements

Two sets of survey measurements were used in analysis. The first set consisted of direct responses of pupils and teachers to questions on surveys. The second consisted of scalar and composite measures created by combining responses to clusters of questions dealing with the same topic. Before creating scalar or composite measures, clusters of questions were tested to ensure pupils and teachers were responding to questions in a way that justified combining them.

Data Analysis

Survey Data

There were three main steps in the analysis of survey data:

(1) Data checking to verify the validity and reliability of data and whether variables met the assumptions of statistical analyses. Modifications of variables, or exclusion of some variables was based on the results of data checking.

[2] By wave 3 new pupils had been in school and exposed to the programme for 10 mos, a time equivalent to the exposure of pupils in STD 6.

(2) Chi-square and analysis of variance to examine target variation/control differences and changes between waves 1, 2, and 3 in individual pupil and teacher responses to survey questions for each of the tested variations. All analyses were run three times: for all pupils, comparing results for boys and girls, comparing results for pupils with and without sexual experience. Where there were significant differences in results by gender or by sexual experience, these are noted in the body of this report.

(3) Hierarchical multivariate regression analyses was used to develop a profile of the uptake of PSABH in schools, factors which influenced greater or lesser programme implementation, and the influence of school uptake on knowledge, attitudes and behaviours. These analyses used aggregated measures from the PSC and TSC together with measures from the SRS, CRS and pregnancy data combined in a school-level database. Analyses were conducted for schools rather than individuals. These regression analyses provided information about how groups of factors collectively influenced each outcome of interest as well as the relative importance of each factor when it was considered as part of the group. Since schools, teachers and pupils are influenced by many factors operating simultaneously, regression provided a closer approximation to how these influences were exerted than analyses that looked at one factor at a time.

Individual level analyses were most often based on the following numbers unless otherwise noted:

Table 3: Number of Pupils and Teachers Used in Analyses

	Nyanza				Rift Valley*			
	Pupils		Teachers		Pupils		Teachers	
	Basic Target	Control	Basic Target	Control	Peer Supporter Target	Control	Peer Supporter Target	Control
wave 1	2203	2330	132	157	1168	567	60	36
wave 2	1991	2324	98	112	--	--	--	--
wave 3	2904	3248	102	110	1601	694	38	22

* These numbers reflect only control and peer supporter schools based on school placement at wave 3.

Textual Data

Analysis of textual data was facilitated using N5 and N6 Software. For wave 3 qualitative data analysis focused on four areas.

1. Themes identified in analysis of wave 1 data were re-examined using wave 3 data to assess whether there had been any changes.
2. Conclusions drawn based on the survey data were examined in light of what pupils, teachers and community members were saying. These examinations provided confirmation and textual illustrations of what was found in survey results or alternative interpretations and challenges of the survey results.
3. Pupils and teachers were asked specific questions about the implementation of HIV educational activities in the schools. These responses provided in-depth insights into what was happening in each school.

4. Sites for collection of interview and focus group data were selected based on specific characteristics (e.g. the 2 control sites from Nyanza with the highest performance scores at wave 2; sites from each variation). Qualitative data were examined in conjunction with survey data to search for insights into whether and how the sites differed with respect to their specific selection criteria.

Details on the steps taken in the analysis of textual data are described in Appendix A.

Triangulation

All forms of data were combined in developing the analysis and conclusions in this report.

Presentation of Results

For ease of comparison, data comparing target with control and pre-programme (wave 1) with post-programme (waves 2 and 3) results are presented as bar graphs in the body of the report with tables that accompany graphs located in Appendix B. Graphs and tables are numbered alike to facilitate location of the exact numbers that coincide with each graph, i.e., Figure A in the body of the report uses data from Table A in Appendix B. Tables and Figures within the body of the report are numbered 1, 2, 3, etc.

Statistical significance was set at $p \leq .01$ for all tests. This partially compensated for the large sample sizes and number of statistical tests and reduced the likelihood of making a claim of significance for very small or chance results. It should be noted that $p \leq .01$ is still a liberal level of significance that will identify every difference and change that is likely to be of substantive importance.

Using the individual-level data, statistical tests were conducted on the difference between wave 1 and 3 results for target variations and for control schools and also on the difference in the amount of change between target variations and control schools. Where changes across waves were significantly different, these are noted on the graphs.

The statistical and numerical results of regression analyses are not as intuitively easy to understand as percentages and scale scores. Consequently, the text of the report includes only a verbal description of trends found in regressions. Numerical and statistical results are included in Appendix B.

COMMUNITY AND SCHOOL PROFILES

This project was designed to include schools and communities with diverse profiles (see sample procedures in Appendix A). This was to ensure that PSABH was tested in communities that might have different sources/forms of HIV vulnerability, may respond differently to the threat of AIDS, and also to the PSABH programme. The following section will provide a collective profile of the communities and schools in this project and of PSABH teacher training.

Community Profiles

AIDS is very real in the lives of the communities participating in this evaluation. Similar to wave 2 analysis, on average across Rift and Nyanza, 39% of students knew of community members who were living with HIV. Approximately 55% of pupils in Nyanza and 62% in Rift Valley knew someone in their village who had died of AIDS. This represents a slight (5%) increase from wave 2 in Nyanza. However, responses on the CRS indicated that publicly attributing a death to AIDS was still a rare event and occurred in less than 8% of the communities.

Teachers in Nyanza reported an average (median) of 53 orphans in the schools, while Rift teachers reported an average of 16 orphans.

According to the CRS, community meetings which discussed HIV and AIDS were present in 95% of the Nyanza communities included in the study, while HIV and AIDS education was incorporated into community festivals or ceremonies in 83% of the communities. The primary focus of the messages for youth remained abstinence through all waves of data collection, with CRS data from only 7% of the communities suggesting that a pro-condom message is important. Condoms were, however, available to adults and youth alike in the majority of communities in both Nyanza and Rift Valley, most typically in clinics and shops.

Church Activity

During wave 1 data collection, churches were found to be highly influential, with their influence often extending to schools, teachers and curriculum. When the activities of churches were considered, it was evident that churches in every community had HIV/AIDS programming. Since different churches approach issues of health, sexuality, personal responsibility, and morality differently, information about the presence and activities of specific denominations was collected in the CRS. Churches clustered into three faith groupings: Roman Catholic, Protestant, and Breakaway or Traditional churches. Breakaway churches are affiliated with mainline Protestant denominations but incorporate traditional beliefs and practices into their teaching and worship. Traditional churches are founded primarily upon traditional beliefs and practices although they may have, at one time, been affiliated with Protestantism or Catholicism. Both Breakaway and Traditional churches, to varying degrees, include significant portions of traditional beliefs, viewpoints, and practices, together with some aspects of Christianity in their teachings and practices. Because of their similarities and small numbers they were treated as one group. Of note is that the Breakaway/Traditional churches were found almost exclusively in communities in Nyanza; whereas Mainline Protestant churches were more likely to predominate in Rift Valley communities.

Based on CRS reports, there were, on average, 3 churches in each community in Nyanza and 4 per community in Rift. Within these communities, an average of 2 churches per community held HIV meetings. Mainline Protestant churches were more likely to hold HIV meetings than any other type of church. In Nyanza, churches continued to prefer personal, youth oriented messages and were more likely to provide anti-condom or condom misinformation, although there was a substantial increase in the number of impersonal messages or ones that were non-supportive of condoms. In Rift, the focus was on abstinence messages and anti-condom messages or misinformation about condoms.

There was considerable diversity in the types of churches and the level of activity of churches in the different PSABH variations. The presence of different kinds of churches was also strongly associated with the level of resourcing in schools. For example, school ranking on SES[3] was highest where there were Protestant churches in the community and lowest where there were Breakaway/Traditional churches. However, schools sponsored by the Catholic church were generally of lower SES than other schools.

The activities of churches related to HIV and AIDS were frequently spoken of and church leaders and messages were commonly referenced in interviews and focus groups at all waves of data collection. However, none of the measures of presence, meetings, or messages promoted by churches demonstrated a statistical effect on either PSABH programme implementation or pupil outcomes. This is likely because there was little variation in the quantity of activity or the 'prevention messages' of churches in the communities. The primary difference was in the denomination or type of church. The uniformity among Christian practices in this region with respect to their approaches to AIDS may have produced a uniform effect.

School Profiles

In general, Nyanza schools had the following characteristics:

- They were located in rural areas (82%);
- Approximately $^1/_3$ were sponsored by the Catholic church and $^1/_3$ by Protestant churches (of note is that schools in the Church Leader variation were nearly ½ Protestant and 43% in the Basic Target variation were Catholic sponsored)
- Most likely to have students belonging to the Luo (58%) than the Kisii (31%) ethnic group with one or the other of these groups predominating in most schools (of note is that schools in the Church Leader variation were over 76% Luo)
- School SES ranged from 43-67. All variations had a mean SES of 53-55
- Schools had an average of 43 pupils per teacher with a range from 9-93
- On average 30% of the teachers were female with a range from 0-100%

In general, Rift schools had the following characteristics:

- More than 70% were not sponsored by a religious organization (of note is that approximately 58% of schools in the peer supporter variation had religious sponsors with the majority (54%) of these Catholic sponsored)

[3] Calculated based on structural resources –i.e. windows, doors, floor, walls, roof, and desks. Possible scores ranged from 0-100.

- More likely to have students belonging to the Kikuyu ethnic group (58%) or to have a mixture of ethnic groups in the school (of note is that schools with a majority of Kalenjin pupils were only present in the Peer Supporter variation)
- Control schools in Rift Valley had significantly lower SES scores (61% vs. 67% and 68% respectively), and lower proportions of female teachers (27% vs. 49% and 52% respectively), than both the Peer Supporter and Teacher Target schools. This is not surprising since this poorer level of resourcing may reflect why these schools did not send teachers to PSABH training.
- Teacher target schools also had significantly lower ratios of pupils to teachers (38 pupils/teacher vs. 52 and 53 respectively) than Control and Peer Supporter schools
- Peer Supporter schools had the most schools in the highest KCPE quintile

There were also differences between schools in Nyanza and Rift Valley:
- Nyanza schools had lower School SES than those in Rift Valley.
- Rift schools had significantly higher proportions of female teachers.

Community characteristics *did* cluster into set patterns. Thus, schools with primarily Luo pupils were located exclusively in Nyanza Province. They were, on average, of a lower school SES than other schools, had higher average KCPE scores than all but the schools with mixed/other ethnic groupings, and were more likely to be sponsored by a Protestant church. There was greater diversity and a larger number of churches active in these communities. This was evidenced partially by more meetings and programming about HIV/AIDS within these communities compared to others.

Schools with primarily Kisii pupils were also located exclusively in Nyanza Province. They had slightly higher SES scores and proportions of female teachers than schools with primarily Luo pupils and they had the lowest ratios of pupils to teachers. There was less diversity and a smaller number of churches active in these communities.

Schools with primarily Kikuyu pupils were located exclusively in Rift Valley and were more likely to *not* have a religious sponsor. Otherwise, they were within the averages for pupil/teacher ratios, proportions of female teachers, SES scores and KCPE scores for Rift Valley schools. These communities tended to have more churches than those of mixed or predominantly Kalenjin ethnicity.

The remaining schools had either a mixture of ethnicities among the pupils or the majority of the pupils belonged to ethnic groups which were not sufficiently represented to create a profile (i.e., only 1 school had a majority of Luhyia pupils, 7 schools had a majority of Kuria pupils and 4 had a majority of Kalenjin pupils). Approximately 60% of these schools were in Rift and 40% in Nyanza. These schools had the highest average proportions of female teachers and the highest average KCPE scores.

Teacher Training

At least one PSABH trained teacher completed the wave 3 survey in 85% of the target schools. Of the PSABH trained teachers, 79% reported that they had undertaken training with their fellow teachers and 61% of the non-PSABH trained teachers reported that they had been trained in their

schools. Both Nyanza and Rift Valley Control schools were not to receive training in order to remain true controls. According to CfBT records, training has occurred in these control schools as follows:

Nyanza Control schools (n=50):

- One school is identified as having received all training components (Course A, Course B and Peer supporter training)
- One school is identified as having received Course A

Rift Control schools (n=12):

- In one school, the Head Teacher is identified as having received Course A

Nyanza Basic Target schools and four of the variations were expected to have received training in Courses A and B and to have peer supporters trained. According to CfBT records, training has not occurred in all schools as expected. The following highlights where schools deviate from their expected training:

Nyanza Basic Target schools (n=49):

- Nine schools are identified as having received no training
- Eight others are identified as having received only partial training with all having received Course A, one having received Course B, and four having received Peer Supporter training

Additional Teacher schools (n=10):

- Two schools have not received Peer Supporter training.

Health Worker schools (n=22):

- Two schools are identified as having received no training
- One school is identified as not receiving Course A
- Two schools have not received Course B
- Seven schools are identified as having no Peer Supporter training
- One school is identified as having received only Course A

Church Leader schools (n=17):

- Ten of these schools were trained in January and twelve schools were trained in June, five of the schools had representatives attend both training sessions
- Nine of these schools sent two or more church leaders to training (to a maximum of 5)
- Given that there was an overlap in attendance it is unclear whether the June session was treated as the equivalent of a Course B or a repeat of Course A

Rift Peer Supporter Target schools (n=20):

- One school has no data from CfBT
- Two schools are recorded as not having received Course B
- One has not received either Course A or Course B

One Rift Valley variation was expected to receive only Courses A and B so that results here could be compared with the Rift Peer Supporter variation to identify the effect of peer supporters in the school.

Rift Teacher Only schools (n=28)

- One school did not receive Course A

HIV/AIDS ACTIVITY IN THE SCHOOLS

This chapter addresses the first and third evaluation questions:

How successful has PSABH been in getting schools to take up various components of teaching about HIV and AIDS?

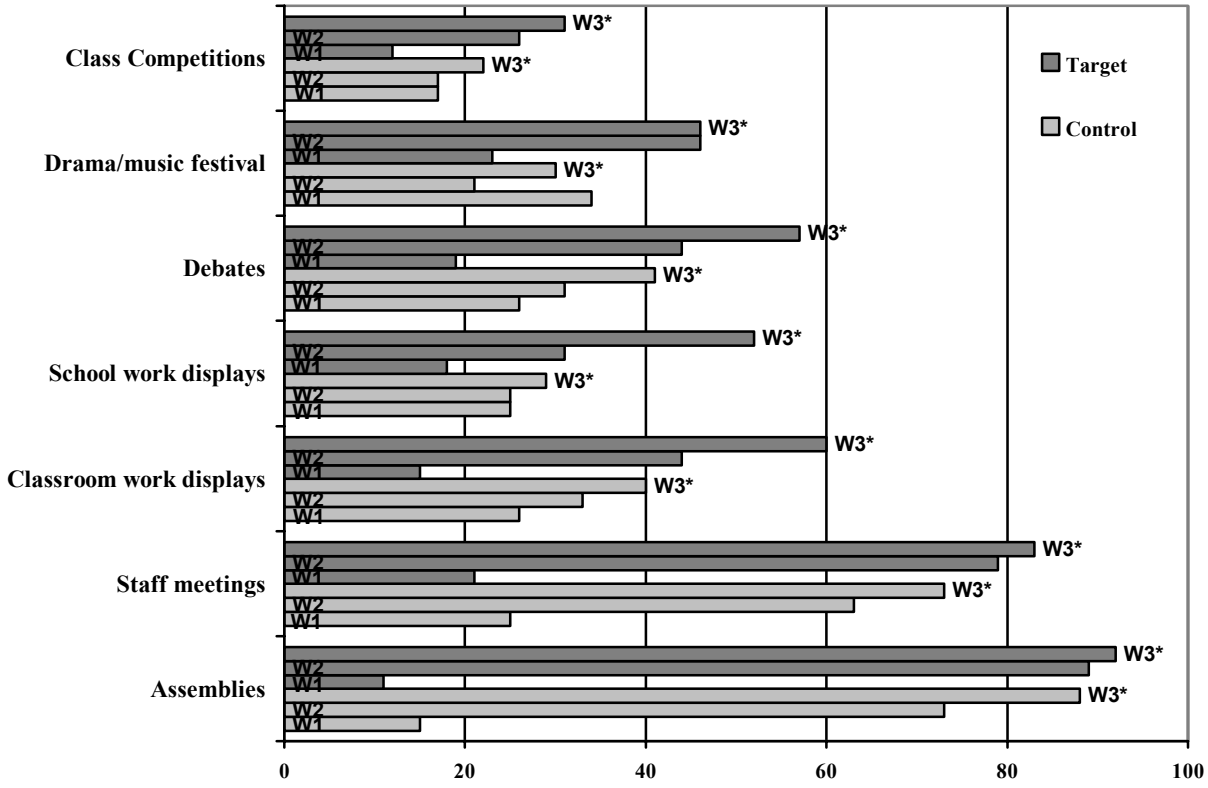
What additional effects do six variations in the basic training model (Church Leader, Health Worker, Additional Teacher, Teacher Only, Peer Supporter Target – 'cost share') have on programme uptake?

The chapter compares:

- Basic Target and Control schools in Nyanza Province over three time periods and Peer Supporter and Control schools in Rift Valley over 2 time periods[4];
- Teacher and pupil observations of HIV/AIDS programming in their schools as reported in the TSC and PSC;
- Overall implementation in schools in all variations (6 intervention groups, 2 control groups).

Where is AIDS addressed?

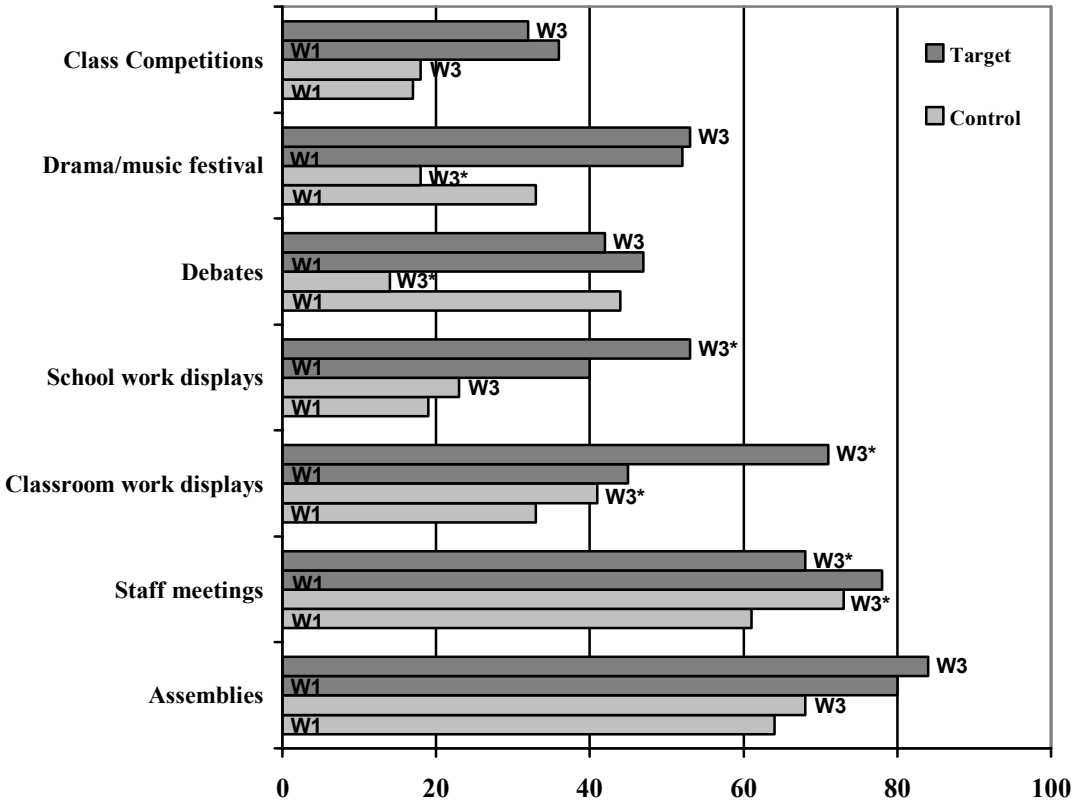
Figure A: Nyanza - Percentage of Teachers Responding 'HIV/AIDS Has Been Addressed in':



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

[4] Schools from Nyanza Basic Target and Rift Peer Supporter schools represent the schools that received the standard PSABH training modules.

Figure B: Rift Valley - Percentage of Teachers Responding 'HIV/AIDS Has Been Addressed in':



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

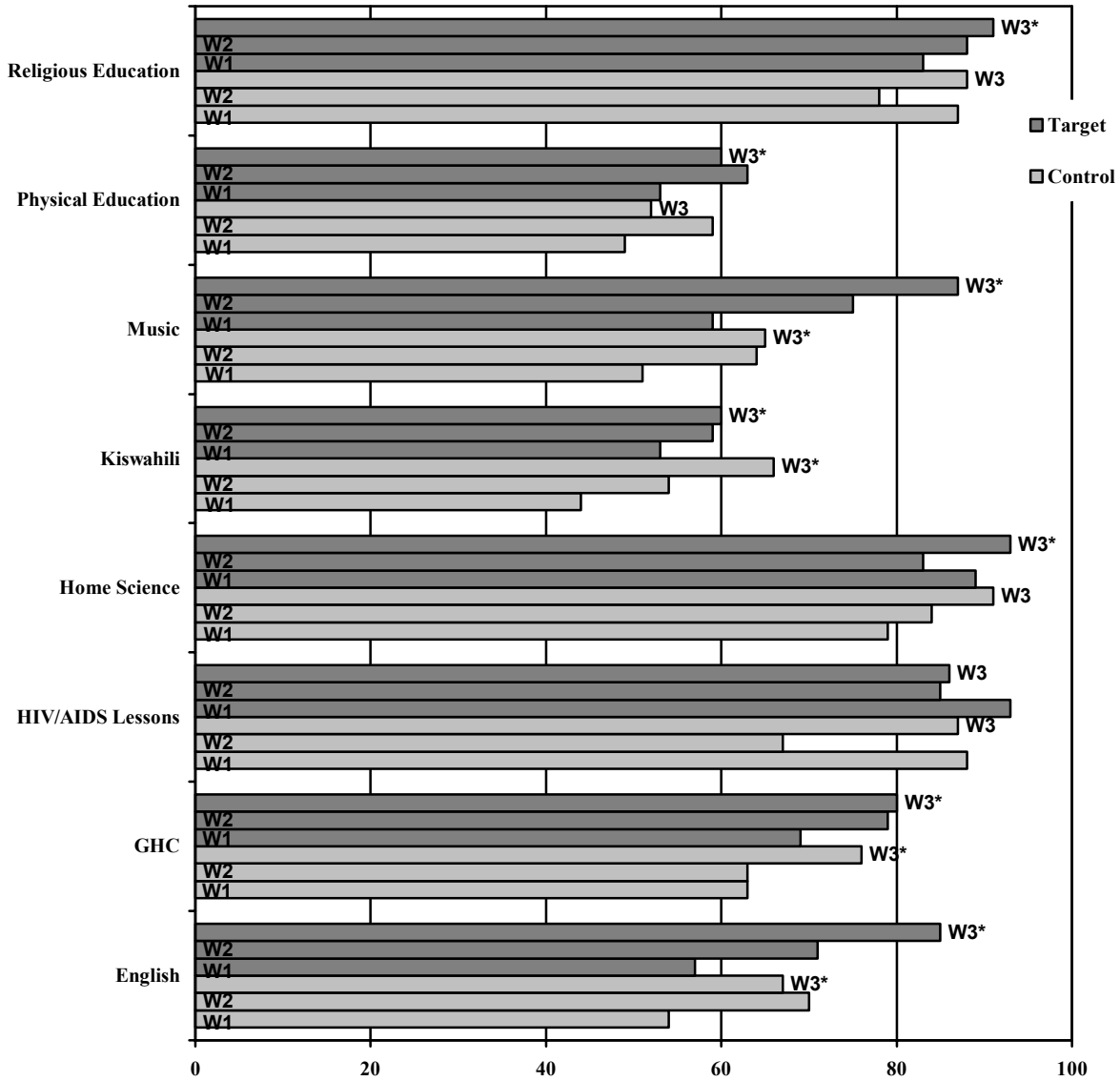
Every school (both target and control) was doing some form of HIV/AIDS education. Figure A shows that, in Nyanza, there were increases in AIDS content in a wide variety of school activities across the 3 waves of data collection with larger increases in target than in control schools. In Rift schools, however, the only activities that increased in target schools were classroom and school work displays (see Figure B). For both Rift and Nyanza it is important to note that the distance between control and target schools widened over the 3 phases of data collection demonstrating that while all schools were taking on HIV/AIDS activities, target schools were doing this to a greater extent than control schools. When comparing Nyanza and Rift it is important to note that for each of these activities levels were higher at wave 1 in Rift Valley than Nyanza in target schools, consequently, the possibility of change was less in Rift Valley.

In both Rift and Nyanza staff meetings and school assemblies were reported by the largest percentage of teachers followed by school work displays.

We erroneously reported a decrease in teaching about AIDS in specific classroom subjects at wave 2. Figure C presents the corrected results for wave 2 together with those for waves 1 and 3. What is evident is that for most subjects, there has been an increase from wave 1 to wave 3 in addressing AIDS in classroom subjects. The exception is in HIV/AIDS lessons and Home Science where there were no significant changes across the waves of data collection. This is not surprising since teaching about HIV and AIDS were already high in HIV/AIDS lessons and

Home Science before teachers were trained in PSABH. The most pronounced increases were in English and Music where 28% and 23% more teachers in target schools reported addressing AIDS in these subjects at wave 3 than at wave 1 (this compared to 13% and 14% respectively in control schools). Of note is that 80% or more of teachers in target schools reported addressing AIDS in each subject except Kiswahili and Physical Education. This compares to over 80% of teachers in control schools reporting the same in only 3 of the 8 listed subject areas (HIV/AIDS lessons, Home Science and Religious Education). While graphs have not been included for schools in Rift, the patterns closely parallel those in Nyanza.

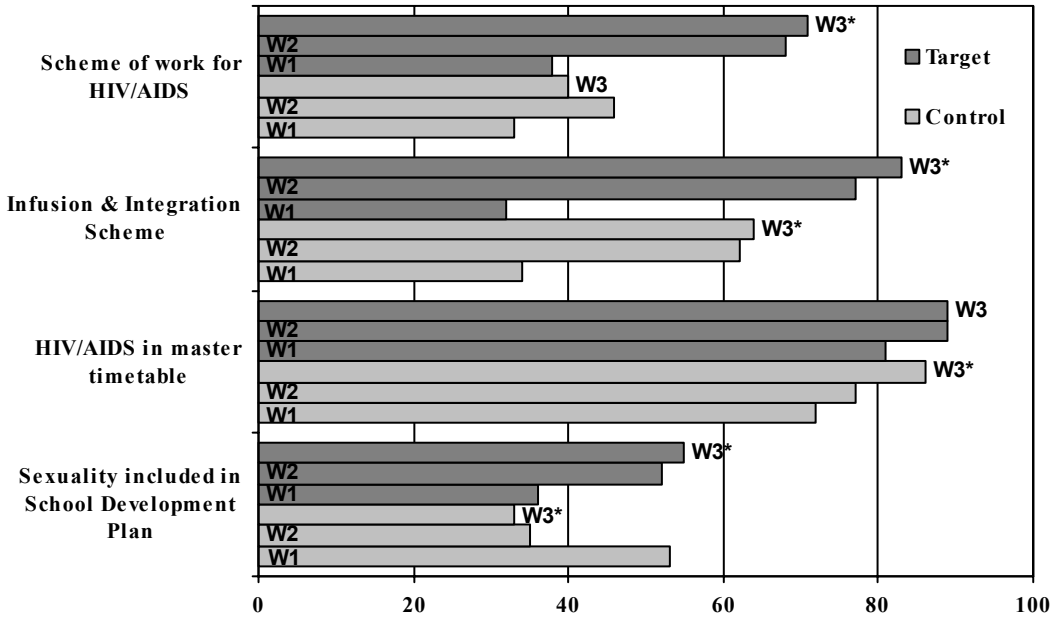
Figure C: Nyanza - For Teachers Who Have Taught Each of the Following Subjects, Percentage Who Have Addressed HIV/AIDS in:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

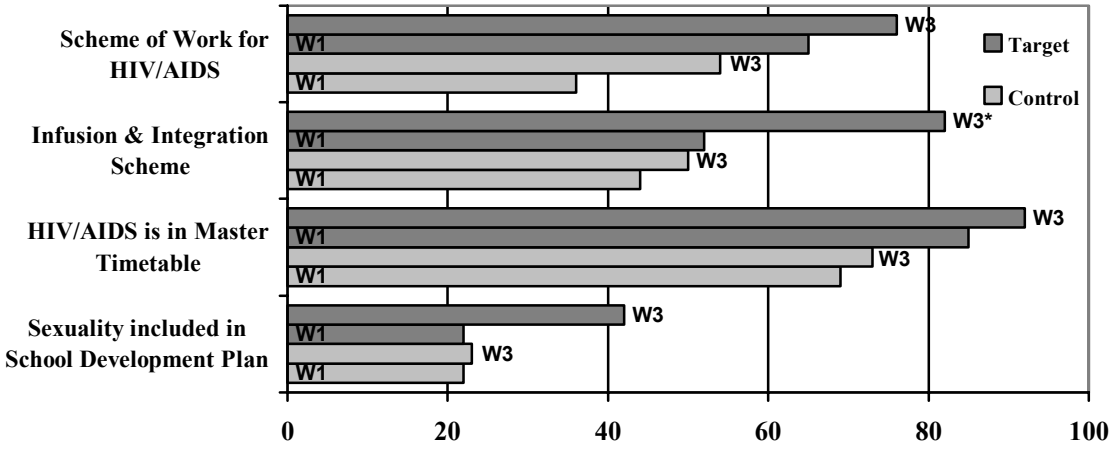
Increases are evident from wave 1 to wave 3 data collection in inclusion of HIV/AIDS in the scheme of work, in developing an infusion and integration scheme and in the inclusion of sexuality in the School Development Plan. These increases are significantly greater in target than control schools in both Nyanza and Rift Valley. Inclusion of HIV/AIDS in the master timetable was already relatively high prior to PSABH training in both target and control schools, consequently there has been less change in this area. The larger increases in Nyanza than Rift may be associated with the higher pre-programme levels seen in both control and target schools in Rift.

Figure D: Nyanza - Percentage of Teachers Reporting Each of the Following:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Figure E: Rift Valley - Percentage of Teachers Reporting Each of the Following:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Resources

In both Nyanza and Rift Valley there were large and significant differences between target and control schools at the final wave of data collection, as well as increases from wave 1 in teacher reports of the supply and use of resources for teaching about HIV/AIDS. This suggests that by October 2003 target schools had in hand, and were using, a variety of resources for teaching about HIV and AIDS.

Qualitative Results

At wave 2 the results from interviews with teachers and focus group discussions with pupils suggested that question boxes, health clubs and the teaching of AIDS in classroom subjects were not as consistently evident as suggested in the survey. Pupils commented that although these activities were present in the school for a while, they had disappeared. What must be remembered is that wave 2 data were collected in February 2003, less than 2 months after the beginning of a new school year and a time when all schools were struggling to accommodate the changes brought on by the declaration of free primary education.

By wave 3 data collection in October of the same school year, the situation had improved in most schools. Pupils and teachers participating in the qualitative data collection typically reported the presence and use of question boxes. Pupils commented that it was useful to hear the different questions that were asked, especially ones you would never think of. Schools took creative approaches to question boxes. In one school, for example, pupils participated in formulating the answers, in another parents as well as pupils placed questions in the box with answers to parents' questions discussed when they came to the school. Question boxes were most likely to be appreciated and praised by pupils.

> Q: *What do you like that goes on in the school concerning AIDS?*
> *The fact that pupils ask questions and the teachers answer them* (RBoys4: 1491-1493).
>
> *Question box has got very different questions even the ones you had never thought of that's why it's good* (NBoys10: 1287-1288).
>
> *The question box is placed outside the office so that even parents can write and put questions any time…*
> Q: *How often are the questions answered?*
> *Twice on Monday and Wednesday…After 3.10 P.M…*
> *In our school, they invite parents, pupils and teachers. Then the questions are answered in front of them* (RGirlPS1: 1115-1145).

Of concern, however, is that some schools were having difficulty maintaining the question box activity either due to changes in available staff or destruction of the box itself.

The picture related to Health Clubs was less clear. It appears that the title "Health Club" may not have been used in all schools, with some having an 'AIDS Club' or including AIDS-related activities in other clubs. In at least two schools, however, pupils rated the health club as the place where the best learning took place since this was the setting where issues could be discussed and worked out.

Q: *I want to know one best [activity] that is going on well, better than the rest.*
Health club.
Q: *Why do you feel it is the best?*
It is new and as it is new we have to like it because good things can come out of it…
It can help us know how to abstain from sex, how we can get AIDS and how we can prevent it (NBoys3: 1820-1840).

The best part is the health club. In there we exchange ideas. This makes you change your behaviour. We are also taught about other diseases which we didn't know (NGirls10: 963-965).

Pupils did not comment on classroom teaching. Teachers' comments related primarily to the use of drama and songs in teaching about HIV and AIDS.

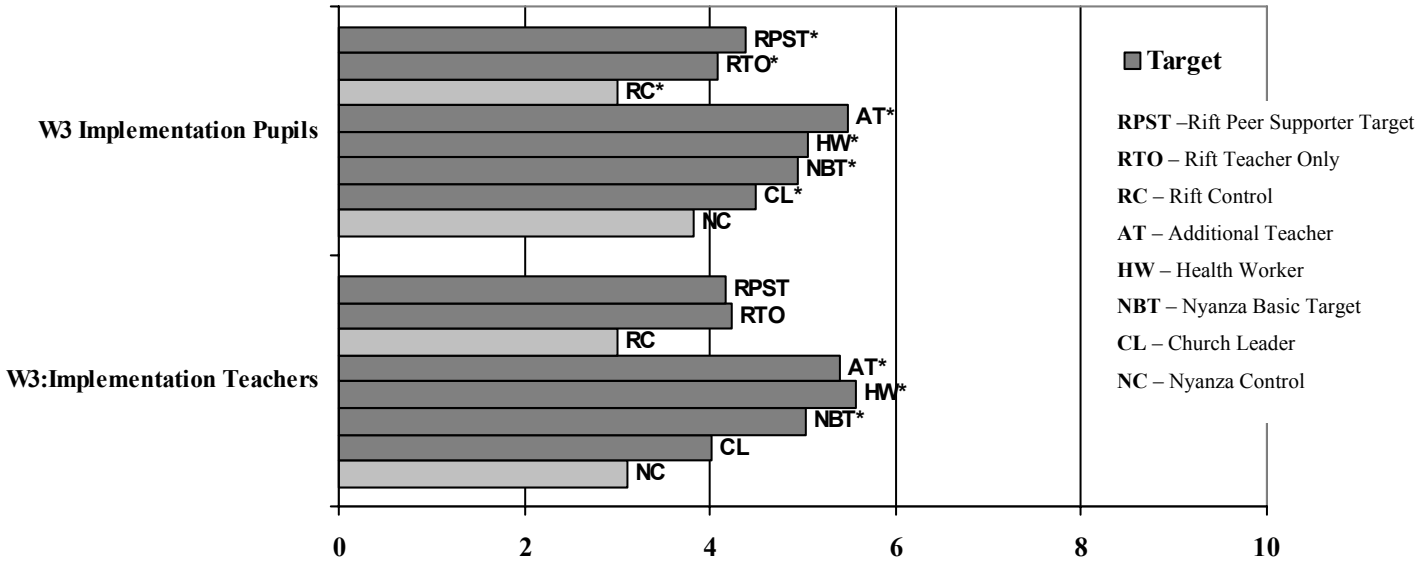
Programme Uptake Across Variations

Teacher and pupil responses to questions about where AIDS is addressed, school activities such as question boxes and health clubs, AIDS in classroom subjects and the availability and use of resources were combined into two implementation scales (see Appendix A), one based on teacher reports and the other on pupil reports.

Pupils in all variations in both Nyanza and Rift Valley, except the Church Leader, reported significantly higher rates of implementation than the control schools at wave 3 (see Figure F). In addition, increases in implementation from pre-programme (wave 1) to post-programme (wave 3) data collection were significantly greater in all variations except the Church Leader when compared to control schools (see Figure G). Although Church Leader schools had scores greater than the control schools, they were only significantly greater for wave 3 pupil implementation scores. This could be because Church Leader schools were the last to be trained and had very little time to implement the programme.

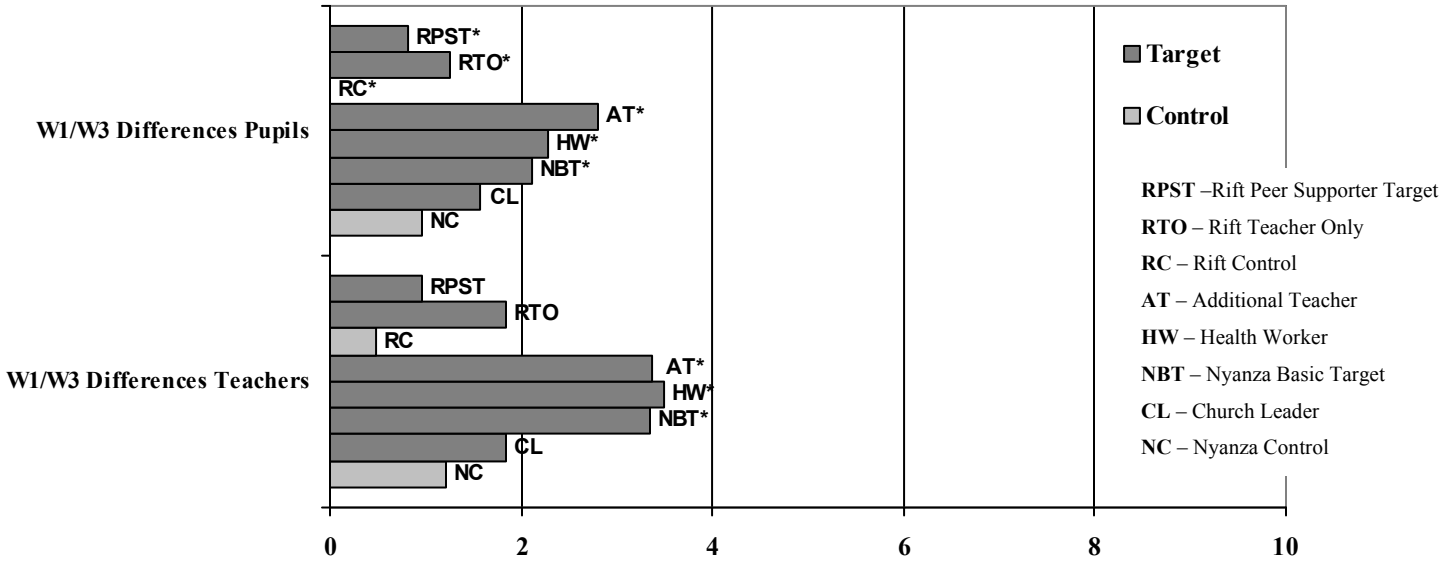
The ranking of target schools with respect to pupil implementation scores appears to reflect the time since training and the resources available in the school on a daily basis. In Nyanza, Church Leader schools (the variation with the shortest time for implementation) had the lowest implementation scores and Additional Teacher schools (one of the variations with the longest time for implementation and with 2 additional teachers regularly available in the school) the highest. In Rift Valley, Peer Supporter schools had higher scores than Teacher Only. Teacher implementation scores reflect primarily the target-control difference with little variation among the different target variations except for that of Church Leaders, which lagged behind in implementation.

Figure F: Nyanza and Rift Valley - Mean Scores for Implementation of PSABH Schools



*variations that are significantly greater than control at p≤.01

Figure G: Nyanza and Rift Valley - Mean Scores for Change in Implementation of PSABH Schools



*variations that are significantly greater than control at p≤.01

The figures on the following pages further illustrate the kind of change that has occurred in the implementation of HIV and AIDS programming in target and control schools across the three waves of data collection. The graphs use data from Nyanza schools, but the pattern is the same in Rift Valley. The three graphs clearly illustrated that:

- There were no appreciable differences in the implementation of AIDS teaching and activities in control and target schools prior to PSABH training.

- The greatest gain in implementation was made within 6 months of training, i.e., by wave 2.
  - By this time, target schools pulled away from control schools and had significantly greater implementation of programming; **but**
  - Programming had increased in ***both*** control and target schools.
- The distance between target and control schools was maintained at wave 3 data collection; however, in both cases, schools obtained slightly lower scores (the difference was not statistically significant) than they did at wave 2.

Also of note is that although target schools pulled ahead of control schools in programme implementation by wave 2 and sustained this difference at wave 3, some overlap between target and control schools remained across both waves 2 and 3 (see shaded portion of graph for waves 2 and 3). Thus, at wave 3, 12% of control schools were doing as well as the upper half of target schools and 14% of target schools were doing as poorly as the lower half of control schools. It is this overlap, and the fact that in both groups there is a range of scores on implementation, that explains why, in multivariate analyses related to programme outcomes (analyses that consider both PSABH training variations and the degree of programme implementation), it is often the ***score*** a school received on implementation rather than whether a school was a target or control school that influenced outcomes

Figure 1

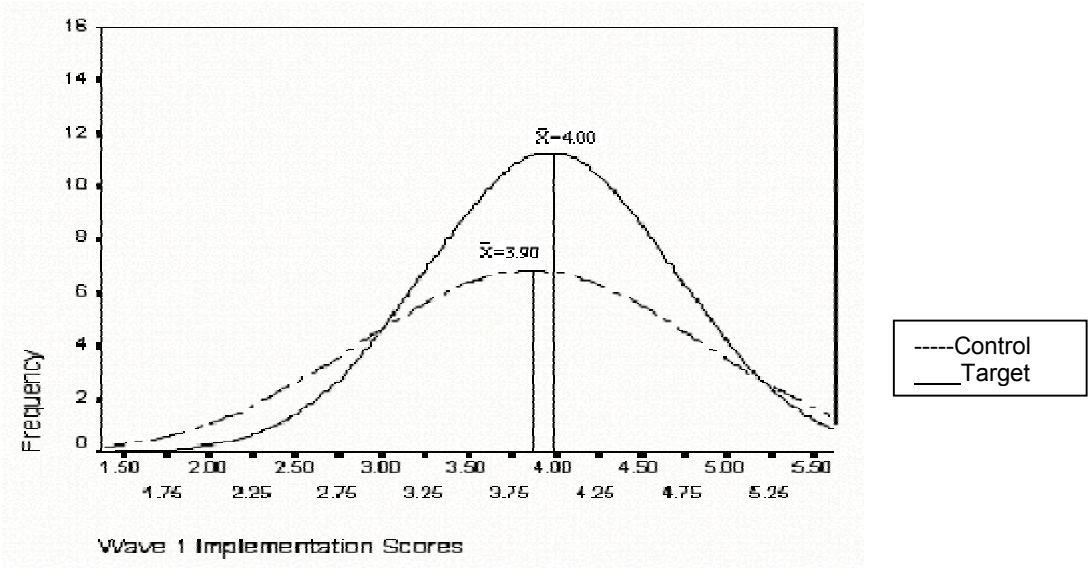


Figure 2

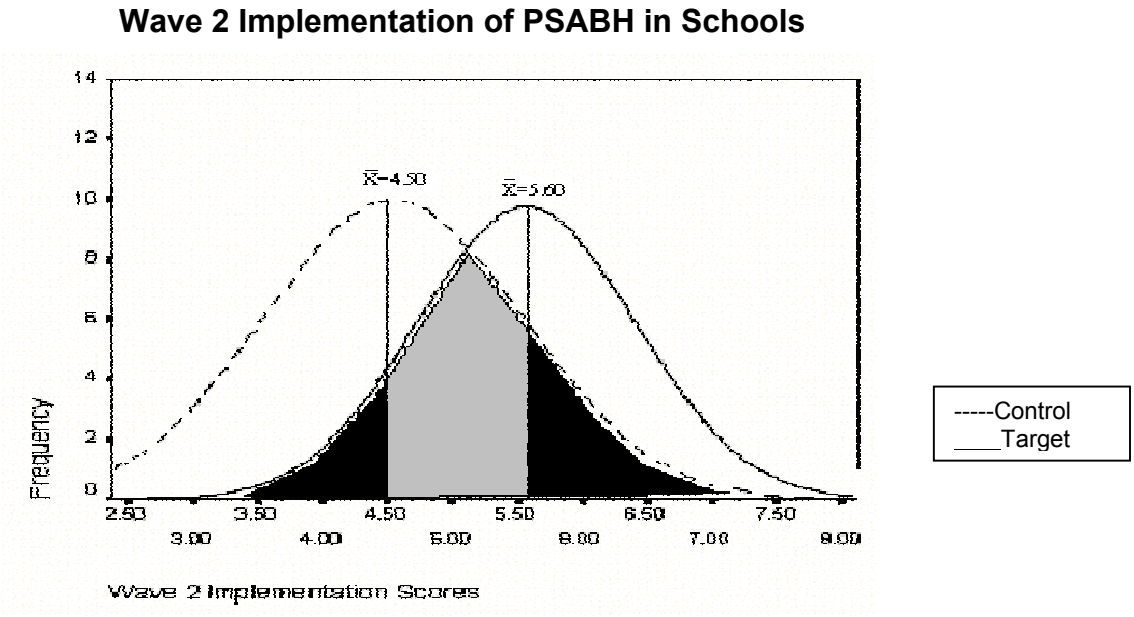


Figure 3 to follow

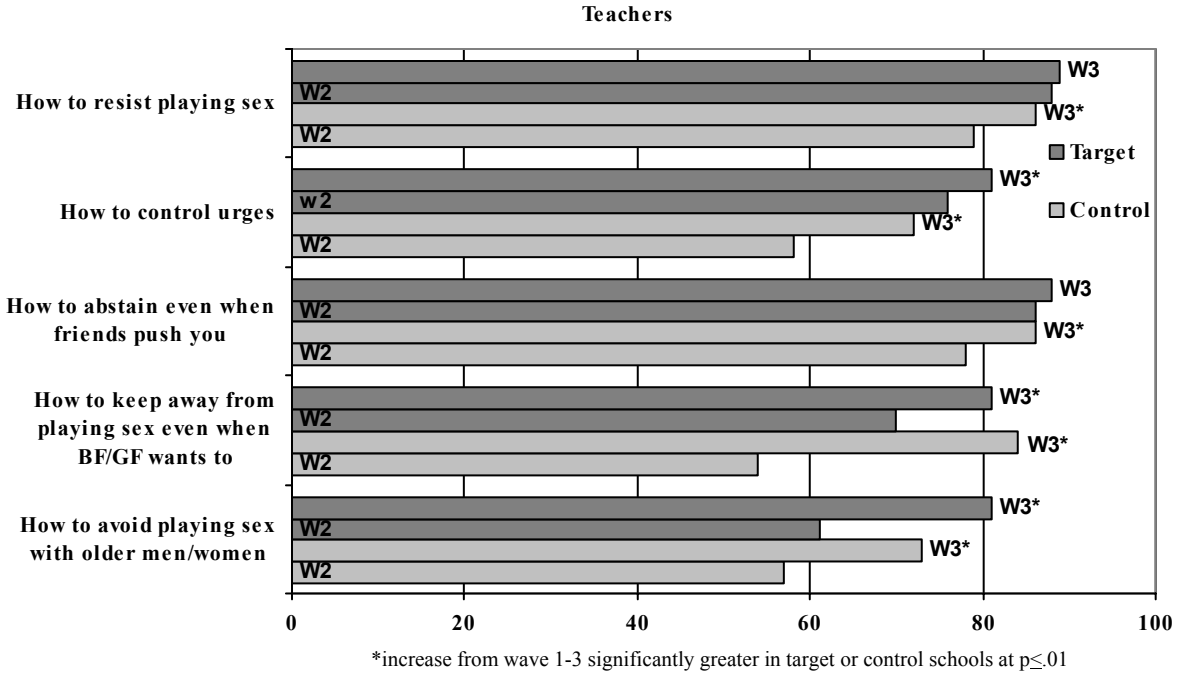
What influences uptake?
In examining the combined and separate influence of various factors that influence programme implementation, PSABH training and variation differences were found to have the most important influence on whether HIV/AIDS programming was present in schools and on the increase in programming from wave 1 to wave 3. This relationship held regardless of whether the responses of boys or girls were considered, pupils who were and were not yet sexually experienced, as well as across all ethnic groups and across schools with different levels of resources (e.g. school SES, staffing levels and proportion of female teachers) and school academic standing measured by performance on KCPE. The only additional factor that influenced the degree of implementation was teachers' ratings of the barriers to teaching about HIV and AIDS. In Nyanza schools, implementation was higher in schools where teachers reported fewer barriers to teaching (e.g., too little time, insufficient training, too few resources). Of note, is that these barriers had no effect on programme implementation in Rift Valley schools.

These results reflect a change between waves 2 and 3. At wave 2, several school and pupil characteristics influenced programme uptake. Almost all of these disappeared by wave 3. This suggests that, with time, the training provided to teachers by PSABH has produced parallel effects across different settings and that regardless of variation, implementation is significantly higher in schools with PSABH training.

Teaching About Abstinence
From focus group discussions in wave 1, we learned that youth wanted to learn specific strategies that would help them resist the biological, social and partner pressures that pushed or 'forced' them to play sex. In waves 2 and 3 we incorporated questions in both the pupil and teacher surveys to assess whether such teaching was occurring.

In wave 2 analysis it was found that a large majority of teachers in both target and control schools claimed to have talked to pupils about several strategies related to remaining abstinent and, similarly, a large majority of pupils reported having learned about such strategies. This pattern was also evident in the wave 3 data, with teaching and learning about each strategy increasing across the two waves of data collection.

Figure H: Nyanza - Percentage of Teachers Responding That They Have Talked to Pupils About:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Figure I: Rift Valley - Percentage of Teachers Responding That They Have Talked to Pupils About (Wave 3 only):

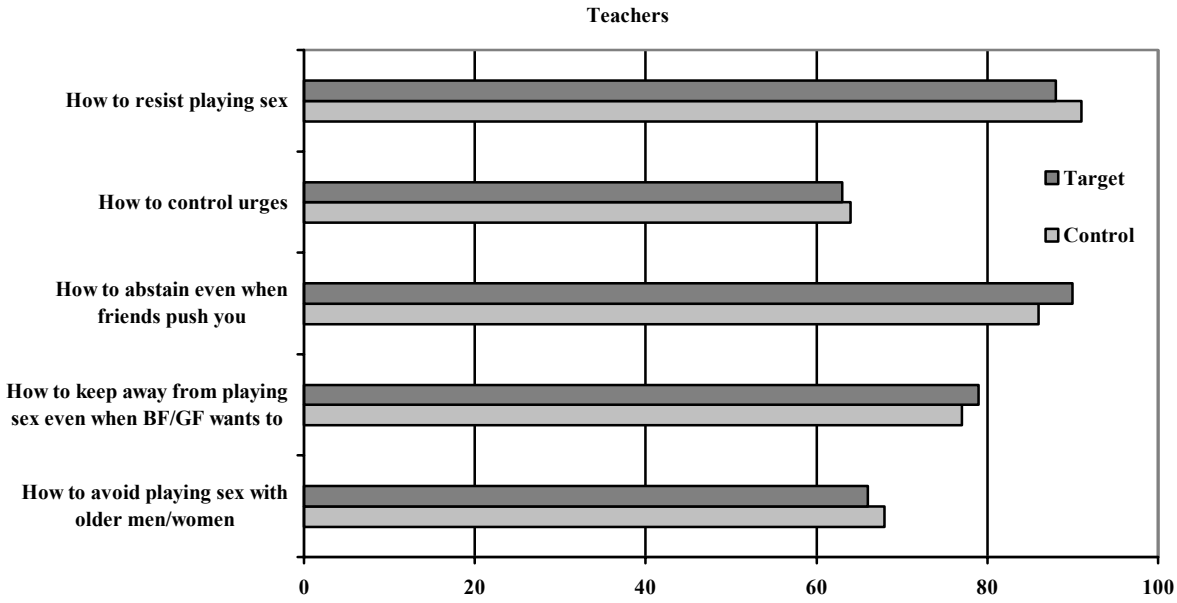


Figure J: Nyanza - Percentage of Pupils Responding that the Following Have Been Talked About in School:

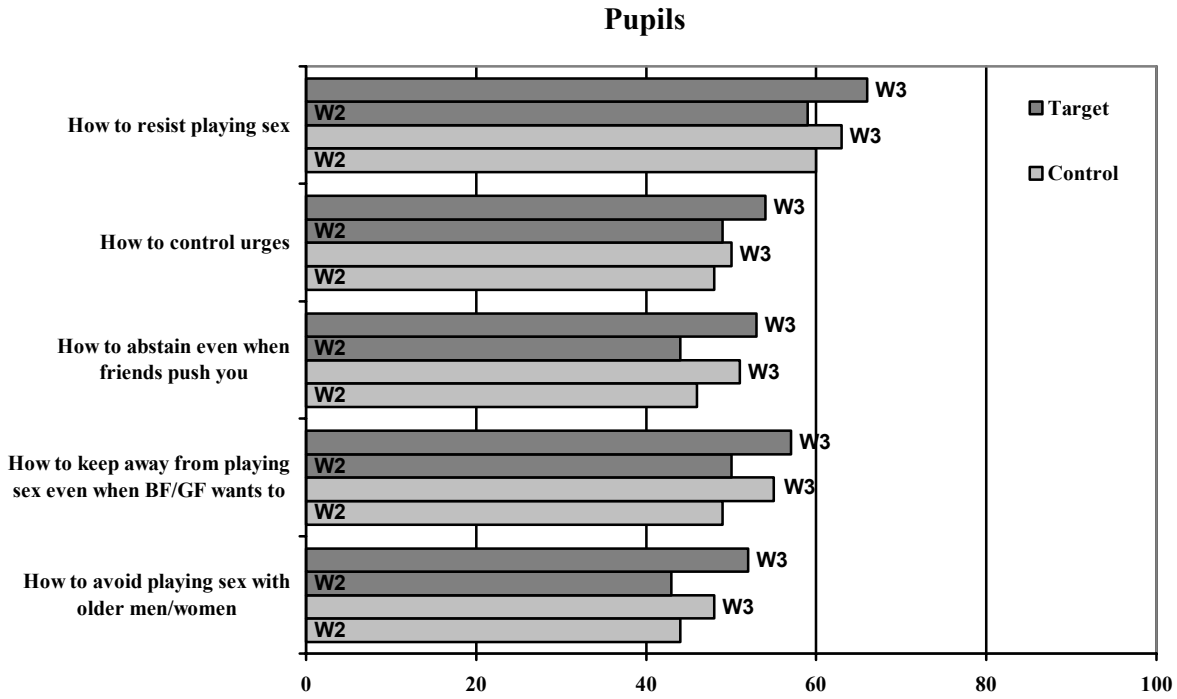
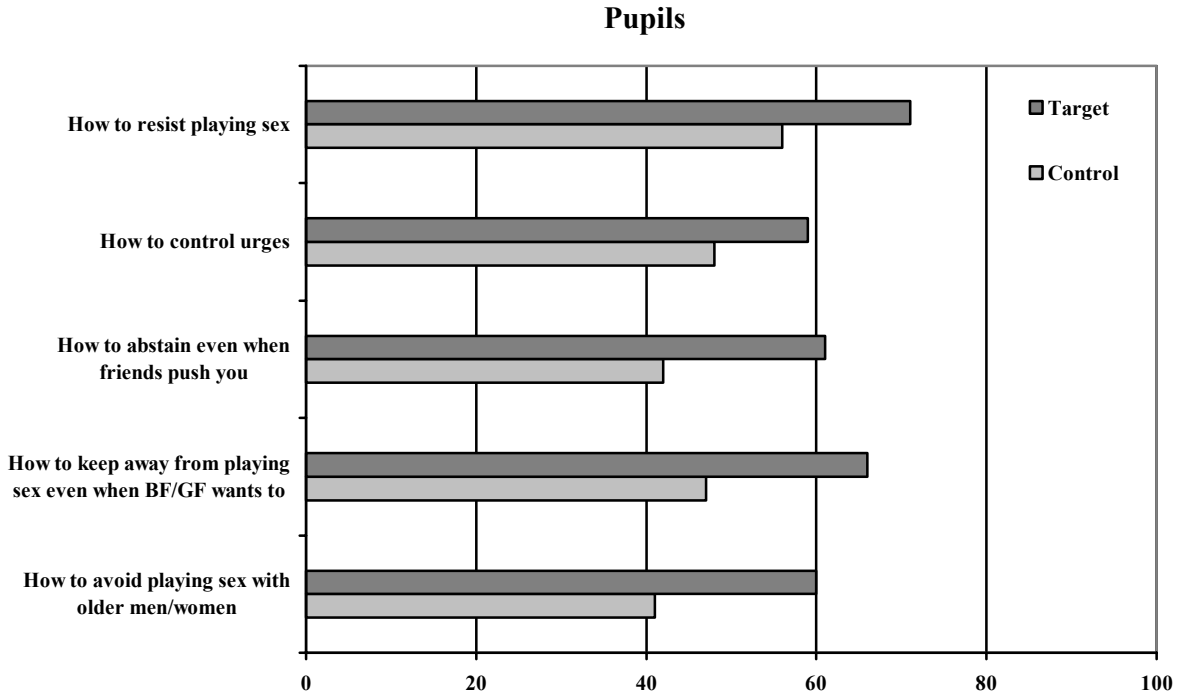


Figure K: Rift Valley - Percentage of Pupils Responding that the Following Have Been Talked About in School (Wave 3 only):



The shift from wave 2 to wave 3 in Nyanza was evident in focus group discussions. At wave 2, pupils often reported only occasional teaching about how to abstain.

> *Q: In class…have you talked about how students can abstain?*
> *It was brought up once in class…the headmaster…taught us a little about abstinence…*
> *Q: Do you think you should be taught about it in school?*
> *It should be taught so… students can know that it is only by abstaining that they will be safe from HIV/AIDS* (W2NBoys1: 816-829).

By wave 3, however, pupils reported being taught more of the specific strategies to help them abstain. Some of the more common ones reported by both Rift and Nyanza pupils included:

- Avoid the opposite sex:
  - Walk with same-sex friends rather than alone, walk away from girls/boys;
  - Avoid being with opposite-sex youth;
  - Just talk to opposite-sex youth, don't befriend them;
  - Avoid boyfriend-girlfriend relationships – just be friends;
  - Don't joke with or touch boys/girls;
  - Do not listen when boys say they love you.
- Re-direct sexual energy, stay busy:
  - Redirect sexual energies and desires into work such as digging, farming, household chores, fetching firewood, herding or other physical activities, i.e., football for boys;
  - Keep busy with homework;
  - Focus on school work, or future
  - Spend a lot of time at church;
  - When you are "in heat" girls should use a "maize cob" rather than playing sex.
- Avoid and deal with situations that could lead to playing sex:
  - Stay away from those with bad thoughts;
  - Report those who are forcing you;
  - Do not take money or gifts from others;
  - Live with relatives if your parents are pushing you into playing sex.
  - Avoid being out at night;
  - Boys stay away from places where girls wear skirts.
- Resist physical assault by poking or throwing soil in the eye, grabbing a man's/boy's penis and pulling hard, running and screaming so others will hear you.
- Think about how you will die if you get AIDS.

Youth still acknowledged the factors that pushed them into playing sex, such as:

- The bodily urges that emerge with adolescence:
  - Unanticipated erections that come just from seeing a girl and make you play sex;
  - When you hold beliefs such as "not playing sex will lead to a blocked penis" (Nboys5: 706).
- Pressure from others:
  - Spending time with people who don't go to school;
  - When peers pressure you;
  - When a teacher wants a pupil for sex.

- Tempting situations:
  - Going to dances and discos where girls and boys are close and touching each other;
  - When your parents treat you "softly" and let you go anywhere you;
  - Once they have already 'tasted the sweetness' it is difficult to stop want;
  - When money is offered.

While these situations were recognized as posing problems for remaining abstinent, pupils said it was possible to abstain if they applied the strategies listed earlier and particularly if:

- Your parents love you and give you everything you need so you don't need a boyfriend;
- Your parents are strict with you;
- You focus on finishing school before you ever play sex;
- You are saved/go to church;
- You see people with AIDS and think about dying from AIDS.

Teachers reported considerable optimism about the effects of teaching specific strategies for abstinence noting that they *saw* the consequences:

- Pupils are:
  - Behaving better;
  - More likely to be seen working and walking in same-sex groups;
  - "Are very free, if there is something they feel is offensive towards their sexual rights they will bring it out" (NST10: 279);
  - Acting and speaking more responsibly about sexual activity and abstinence.
- There were fewer pregnancies;
- Girls were not attracted to men anymore.

Items related to teaching about abstinence were combined into measures of the number of topics teachers had spoken of that related to strategies for abstaining and the number of topics that pupils reported having been taught. The pattern that was evident in Figures J and K was also seen in the scale scores. Teachers reported teaching an average of 4-4.3 out of 5 topics across the variations; pupils reported learning an average of 3-3.5 out of the 5 topics.

When comparing variations, what was most evident was that pupils in the Additional Teacher schools were the most likely to report teaching about abstinence, with at least 10% more pupils in Additional Teacher schools reporting each of the specific items and the overall score on the abstinence teaching scale more than a point higher than in other schools. In Rift Valley schools, a similar pattern was evident for both the Teacher Only and Peer Supporter variations, but was most pronounced for in the Peer Supporter schools. Overall, however, it was the Additional Teacher schools that scored highest.

When variation was considered together with overall programme implementation, however, it was implementation that had the stronger effect on teaching and learning about abstinence. When both variation and implementation were considered together, the variation effect was no longer significant. The degree of overall HIV/AIDS programme implementation was found to have the strongest effect on teaching and learning about abstinence in Nyanza and learning about abstinence in Rift. In Nyanza, teaching about abstinence was also higher in schools where teachers reported fewer barriers to teaching about AIDS. Pupils in both Rift and Nyanza, gave

higher ratings to their learning about abstinence in schools with higher resourcing, as measured in school SES. In Rift, schools with higher KCPE ranking were also those where pupils reported more learning about abstinence.

Teacher Attitudes and Barriers to Teaching About HIV and AIDS

Important to consider as PSABH continues to be implemented and adjusted, are the survey and interview findings on teacher attitudes. What was evident in interviews was while some teachers still felt uncomfortable talking about sex, the training had made them much more open to doing so.

In responses to survey questions there were no apparent differences across variations or target and control groups in how teachers responded to questions inquiring about their attitudes toward teaching about HIV and AIDS. At wave 3, teachers were in clear agreement that teaching about HIV and AIDS was appropriate and necessary in upper primary grades. In terms of barriers, however, while teachers in target schools saw fewer barriers than those in controls, half or more of teachers in target schools continued to report insufficient training, lack of time to deal with the topic, and that parents were unsupportive. The only exception was that teachers in schools that had 4 trained teachers (i.e., Additional Teacher variation) were less likely to report lack of time or inadequate training.

At wave 2, teachers generally described themselves as struggling and overwhelmed by their HIV/AIDS teaching tasks, particularly when they were expected to speak to pupils about sex. By wave 3, however, teachers appeared to have 'settled into' their teaching tasks and generally spoke of how the training had provided them with the language, information and strategies for teaching their pupils.

> *Q: So since being trained, is it easier for you to talk to pupils about sex?*
> *Yes, it is easier to discuss. We are able to discuss with the pupils, though at times using some words in talking about it become a bit difficult. But we are able to go about it.* (N HT11: 81-83).

Pupil Responses

Pupils were responding positively to the curriculum. At waves 2 and 3 65-80% of pupils found the lessons about HIV/AIDS to:

- Be very useful;
- Have told them everything they needed to know;
- Have helped them make the right decisions; and,
- Have helped them protect themselves from disease.

Of note is that approximately 7-10% more pupils in Rift target schools rated the lessons in this way than did pupils in Nyanza Target schools (i.e. 70-90%).

Only a minority (30-40%) found the lessons:

- Difficult to understand;
- A bit shameful; and,
- Boring.

The feelings of pupils were the same in all schools and got stronger for the first group of responses (i.e. useful, help make right decision) from wave 2 to 3.

VARIATIONS: HEALTH WORKER AND CHURCH LEADER

Specific implementation tasks were expected of the Health Worker and Church Leader variations:

- Health workers were directed to visit schools 2-3 times during the year and specifically to provide support to teachers and pupils in dispelling myths and providing factual information about condoms.
- Church leaders were trained with teachers and other community representatives and expected to visit schools to speak to pupils about HIV and AIDS and to support prevention strategies that fit with their religious teachings.

This section addresses how well the health workers and church leaders carried out these expected tasks.

The data in this section come from Nyanza pupil reports of whether a health worker or church leader visited their school; whether HIV/AIDS, waiting to play sex, and condom use were discussed; and examples of the 'messages' that were conveyed for each of these topics. Since daily attendance at school varies and not all pupils are likely to be aware of visitors to the school, a school was considered to have a health worker or church leader visit if at least 70% of pupils completing a survey reported such a visit. Similarly, the visitor was considered to have covered a particular topic if at least 70% of the pupils who were aware of the visit reported the topic was covered.

Health Worker Visits

It was not uncommon for health workers to visit schools; however, health workers were said to have visited significantly more schools in the Health Worker variation than in the control schools and the basic target variation.

Table 4: Percentage of schools where a health worker visited

Variation	Number of schools	Percent
Nyanza Control	54	33%
Church Leaders	17	59%
Nyanza Basic Target	51	39%
Health Worker	22	91%
Additional Teacher	10	70%

In all schools where a health worker visited, there were no statistically significant differences in what was discussed. Health workers were most likely to talk about HIV and AIDS. While this was more likely in Health Worker variation schools, the difference between types of schools was not statistically significant. Waiting to play sex and condom use were not commonly spoken of by health workers in any of the schools despite the specific focus on these practical lessons in the training of health workers.

Table 5: Percentage of schools where each topic was discussed by health workers

Variation	Number of schools where a health worker visited	Topic Discussed		
		HIV/AIDS	Waiting to play sex	Condom use
Nyanza Control	18	72%	11%	17%
Church Leader	10	40%	10%	0%
Nyanza Basic Target	20	70%	10%	20%
Health Worker	20	75%	5%	15%
Additional Teacher	7	71%	0%	14%

While training of health workers by PSABH did increase the likelihood that they visited schools, it did not have an impact on the topics they spoke of or the messages they conveyed. All health workers, whether trained by PSABH or not, were equally likely to cover the topics of HIV and AIDS, waiting to play sex and condom use and the messages they conveyed under each of these topics were identical. Pupils were most likely to report that when discussing:

- HIV and AIDS, the visiting health workers spoke about abstinence for youth.
- Waiting to play sex, the visiting health workers spoke about abstinence, with reasons given for abstinence.
- Condoms, the visiting health workers provided personal, supportive messages with factual information about condoms.

In focus group discussions pupils reported that health workers talked mostly about abstinence and the treatment and care of people with HIV. What was evident from the focus group discussions was the connection between some health workers and religious organizations. Health workers used videos from churches in their visits and some were described as sent by medical missions.

Church Leader Visits

Church leaders were said to have visited significantly more schools in the Church Leader variation than in the control and basic target schools.

Table 6: Percentage of schools where a church leader visited

Variation	Number of schools	Percent
Nyanza Control	54	30%
Church Leaders	17	71%
Nyanza Basic Target	51	33%
Health Worker	22	46%
Additional Teacher	10	50%

Even more so than the health workers, church leaders rarely spoke about waiting to play sex or condom use. Pupils were most likely to report that visiting church leaders spoke about HIV and AIDS in control schools, followed by Additional Teacher and the basic target schools. In only 17% of the schools that had PSABH trained church leaders where the church leader actually visited the school did they speak about HIV and AIDS. While many of the church leaders were only trained in June, leaving two months of school for implementation prior to data collection, it

is curious that in schools in the other variations, pupils were more likely to report that visiting church leaders spoke of HIV and AIDS.

Table 7: Percentage of schools where each topic was discussed by visiting church leader(s)

Variation	Number of schools where a health worker visited	Topic Discussed		
		HIV/AIDS	Waiting to play sex	Condom use
Nyanza Control	16	50%	0%	0%
Church Leader	12	17%	0%	0%
Nyanza Basic Target	17	35%	12%	6%
Health Worker	10	20%	0%	0%
Additional Teacher	5	40%	0%	20%

The responses to statements about what the church leader said with respect to HIV, waiting to play sex and condoms illustrated the same results as the Health Worker variation. Pupils were most likely to report that when discussing:

- HIV/AIDS, visiting church leaders spoke about abstinence for youth.
- Waiting to play sex, visiting church leaders spoke about abstinence with reasons given for abstinence.
- Condoms, visiting church leaders provided personal, supportive messages with factual information about condoms.

In focus group discussions it was clear that church leaders placed AIDS within a religious context. In one case, a church leader explained that AIDS was a consequence of breaking the 6th commandment. Several promoted abstinence by saying that sex outside marriage was a sin. Church leaders also described condoms as dangerous because they had holes or were porous and allowed the virus through. In talking to teachers they told teachers not to mention condoms or to give pupils the facts and limitations on who should be using condoms. When 'facts' were described, they included: condoms don't work, condoms have holes, and people use condoms and then get AIDS. Church leaders did stress to teachers that they must set a good role model and be careful in their relationships and in their interactions with pupils.

The importance of what church leaders said to some youth was clear in one focus group discussion where youth described the 'best learning' as coming from the church. In other focus group discussions church leaders were referred to as merely come to school to pray with pupils prior to exams or as repeating what was said in church. At least one head teacher put a great deal of importance and trust in what church leaders said. He said that church leaders had gone for seminars and knew a lot about HIV and AIDS. Because of this he looked to church leaders for "correct" information about AIDS.

As with health workers, schools in which church leaders were trained by PSABH were more likely to have church leaders visit. However, the topics they discussed and the content of their messages did not vary based on whether or not they participated in PSABH training. What should be noted is that trained church leaders had the least time of any group to act on their training since most were trained in June. Given the break between terms, they only had September and October to visit schools.

VARIATIONS: RIFT PEER SUPPORTER

Trained peer supporters are part of the standard or basic PSABH model. To test the effect that trained peer supporters have on programme implementation and outcomes, survey questions related specifically to this component of the programme were administered to pupils in 20 Rift Valley schools with trained peer supporters. The questions asked of these pupils were designed to assess how the peer supporters were perceived and received within the schools. Peer supporters themselves were queried with respect to their roles within the school at three points in time (pre-training, post-training and 9-months post-training). This chapter describes both quantitative and qualitative results based on reports given by both pupils and peer supporters.

Peer supporters reported playing an active role within their school as evidenced by their involvement in setting up school activities related to HIV and AIDS and communicating with pupils about the subject. The testimonies of peer supporters were confirmed by a majority of pupils. Interesting to note are differences in the percentage of peer supporters reporting engagement in select activities and pupils reports of such engagements. In this case, pupils were less likely to report that peer supporters were actively engaged in each activity. This is similar to reports from teachers and pupils on teaching about abstinence wherein teachers reported that they had taught about specific strategies of abstinence than pupils reported being taught about.

Table 8: Pupil reports of peer supporter activity and Peer supporter self-reported activity

	Pupil n	Percentage of Pupils report that PS[a] has…	PS n	Percentage of PS who say they have…
Answered question in question box	1412	64.3%	69	79.7%
Talked to pupil about HIV/AIDS	1432	81.1%	69	87.0%
Set up a school activity for pupils	1312	53.9%	69	71.0%
Held a school health meeting	1357	54.3%	69	69.6%
Talked about HIV/AIDS at school health club	1370	62.9%	69	91.3%
Helped a pupil avoid playing sex	1375	74.4%	69	91.3%

a. PS = Peer Supporter

Input from qualitative interviews with pupils suggested that peer supporters have been visible and actively engaged in activities related to HIV and AIDS within their respective schools. In focus groups pupils said that peer supporters had helped lead activities and answer questions for them. At times, peer supporters stepped up in the absence of teachers to lead activities or disseminate information.

> *They taught us on how AIDS starts the symptoms and they told us it is not good to play sex* (RGirls1: 342-343).

> Q: *When do they* [peer supporters] *teach you?*
> *When the teachers has not yet come* (RGirls4: 804-806).

An attempt was also made to assess the degree to which pupils identified with peer supporters in terms of being similar, a credible source of information, easily approachable, highly regarded, and a role model. Results suggested that pupils perceived peer supporters as being similar to them, easy to talk to, knowledgeable and role models. For comparison purposes, pupils were also asked to rate teachers on these same characteristics. Results suggested that teachers were also identified similarly to peer supporters.

Table 9: Identification with peer supporters and teachers

Percentage of pupils who agree that either the peer supporter or teacher…	n	Peer Supporters	n	Teachers
Know a lot	1347	86.4%	1512	89.4%
Are like me	1512	44.3%	1512	38.6%
Is someone I can talk to	1400	81.0%	1016	86.0%
I would like to do what they do to stay safe	1377	76.8%	1497	71.2%
I wish I could act like they do	1348	79.8%	1493	72.8%

In terms of pupils having interacted directly with or taken part in activities led by peer supporters, a large proportion of pupils reported having asked a question about HIV/AIDS, talked about abstaining from sex or gone to a meeting and received information about condoms, all with or from a peer supporter. Pupils were less likely to have reported having spoken about being forced to play sex or discussing a personal problem with a peer supporter. Similarly, pupils reported active engagement with teachers to relatively the same degree as with peer supporters.

Table 10: Pupil self-reported interaction with peer supporters and teachers

Have you ever…	n	Peer Supporters	n	Teachers
Asked a question about HIV/AIDS	1512	69.3%	1459	72.6%
Talked about a personal problem	1512	44.8%	1399	48.8%
Talked about abstaining from sex	1512	60.1%	1377	57.4%
Talked about being forced	1512	36.4%	1396	34.5%
Participated in an activity led by	1512	48.1%	1332	48.3%
Went to a school health club meeting led by	1512	48.0%	1372	54.4%
Received information about condoms from	1512	50.9%	1372	54.4%

Pupils were also asked to assess both peer supporters and teachers in terms of helping or influencing them in either positive or negative ways. Both teachers and peer supporters were seen by a large proportion of pupils as being helpful, easy to understand and not dull or boring. Teachers were slightly more likely to have been identified as teachers of HIV/AIDS, conduits of knowledge, able to help pupils to make better decisions about playing sex. Note however, that peer supporters were also identified for their ability to do these things.

Table 11: Pupil Assessment of peer supporters and teachers

Percentage of pupils who agree that…	n	Peer Supporters	n	Teachers
Been very helpful	1388	87.2%	1472	93.9%
Taught me about HIV/AIDS	1388	80.7%	1457	90.6%
Are difficult to understand	1512	34.7%	1512	33.7%
Do not feel shameful talking to them	1351	69.6%	1396	75.7%
Are boring	1512	28.1%	1512	28.0%
Have learned a lot from them	1380	81.4%	1443	86.2%
Can make better decisions about playing sex because of them	1305	67.1%	1342	72.2%

In focus groups pupils reported liking the peer supporters because they give advice on and strategies for abstaining from sex, avoiding being forced to play sex and caring for PLWHA's. Pupils were also noted for their answering of questions in the question box. .

> Q: *What are some of the things you like about peer supporters?*
> *They give us good advice* [on] *what we can do when people are telling us to play sex, if they tell you to play sex you say no* (RGirls2: 1140-1143).

> Q: *Have the answers from peer supporters helped you?*
> *Yes.*
> Q: *Like in what way have the answers helped you especially you.*
> *To avoid playing sex…*
> *Helped me to stop playing sex…*
> *Has helped me to avoid these issues…going round playing sex…*
> *Has helped me to maintain personal hygiene like razor blade in the barbers shop* (RBoys1: 1651-1672).

> *They teach us well* (RGirls4: 1220).

A few youth were concerned that some peer supporters were too shy to reach out to their peers while others commented that the male peer supporters in their school were not setting such a good example by engaging in the very behaviours they tell pupils to refrain from.

> *If we ask them they shy off* (RBoys4: 1477).

> *Sometimes they surely say do not play sex and when you find them they play sex…When they have taught people the truth they should also not do so in order for the others to follow* (RBoys1: 1721-1726).

Peer supporters reported feeling quite comfortable communicating about specific topics. These included how HIV is transmitted, information about AIDS, ways to abstain from playing sex or showing love to someone without playing sex. Communicating about playing sex and condoms was identified as more problematic. Communication did appear to increase over time with respect to most topics. Important to note is that peer supporters became more comfortable discussing condoms over time. Reported comfort in discussing

all topics appeared to translate to active communication on the part of peer supporters within their schools with the exception of condoms.

Table 12: Peer supporter self-reported communication comfort and activity

I am comfortable talking about…	Pre-training	Post-training	9-months post-training
How HIV is transmitted	78.5%	87.9%	98.6%
Playing sex	27.7%	31.8%	50.0%
AIDS	63.1%	78.8%	95.6%
Ways to abstain from playing sex	55.4%	27.3%	91.3%
Ways of showing you love someone without playing sex	64.6%	34.8%	88.1%
When to use a condom	35.4%	72.7%	47.8%
How to use a condom	33.8%	83.3%	33.3%
Where to get a condom	27.7%	40.9%	23.1%
Risk for HIV/AIDS	70.0%	80.0%	81.8%
I have actually spoken about…			
How HIV is transmitted	-	-	95.7%
Playing sex	-	-	53.6%
AIDS	-	-	94.2%
Ways to abstain from playing sex	-	-	95.7%
Ways of showing you love someone without playing sex	-	-	92.8%
When to use a condom	-	-	36.2%
How to use a condom	-	-	26.1%
Where to get a condom	-	-	23.2%

There was ample evidence from focus groups with pupils to support claims made by peer supporters of their activities in speaking about sex and HIV/AIDS. Communication about condoms was more problematic and tended to emphasize their fallibility.

> Q: *What do peer supporters do?*
> *They talk to us about how to live and prevent it…avoiding Aids, having one partner, trust one another and visiting VCT…They come and we are taken to the hall, boys on their own and girls to, we are taught and we write notes* (RBoys2: 97-109).
>
> *Sometimes when you go to sit with them they start telling what they were taught* (RGirls2: 1018-1019).
>
> Q: *What did they tell you about HIV/AIDS?*
> *That when somebody wants to make love to you, you pinch him here…*
> Q: *At the nose?*
> *Yes…[and] that you hit him between his legs* (RGirls4: 1137-1146).

Reported peer supporter confidence in carrying out tasks fundamental to their role was relatively high both before training and remained so over time. There was indication of a sizeable increase in confidence when it came to getting information, presenting such information accurately and making presentations about HIV/AIDS, talking to other pupils about playing sex, and teaching others how to care for people living with HIV and AIDS.

Table 13: Peer supporter self-reported confidence in role

I am confident that I can…	Pre-training	Post-training	9-months post-training
Get information about HIV/AIDS	80.0%	83.3%	97.1%
Present accurate information about HIV/AIDS to pupils	67.7%	84.9%	94.2%
Talk to other pupils about playing sex	24.6%	36.4%	46.4%
Help other pupils develop skills to protect themselves	87.6%	81.8%	95.7%
Explain to pupils how a condom should be used	32.3%	15.2%	37.6%
Teach other pupils how to care for PLWHA's	81.5%	90.9%	97.1%
Help other pupils understand their risk for HIV/AIDS	84.6%	88.8%	95.6%
Make presentations about HIV/AIDS	61.5%	66.7%	88.4%

While barriers to being a peer supporter were reported this was for the most part by a select few. A majority of peer supporters did cite shy pupils as being a major barrier to them in their role as a peer supporter.

Table 14: Peer supporter self-identified barriers

Barriers to being a peer supporter	9-months post-training
Not enough time to set up activities for pupils	31.9%
Not enough training	27.9%
Pupils are too shy to talk about HIV or AIDS	42.6%
Pupils are too shy to talk about playing sex	51.5%
I am uncomfortable talking about HIV and AIDS	36.8%

Focus group discussions with peer supporters indicated that their roles were not without constraint or difficulty. Their main concern seemed to be the fact that some pupils teased and ostracized them. The majority however, saw and accepted this as embedded within their role.

> *The disadvantage is when you explain to your colleagues some of them might abuse you in disregard and call you stupid* (MBPSI: 708-709).
>
> *Some of them say we do waste their time and whatever we teach them is not examinable during exams* (MBPSI: 886-889).
>
> *When you are writing and you have turned your back, they hit you.*
> *When you turn and ask who has done it, nobody talks to you instead they laugh*
> (MBPSII: 355-357).

Overall, peer supporters do appear to be playing an active role within their schools. This is confirmed by reports from pupils and descriptions they provide of interactions with and observations of peer supporters. What emerges from the results is a sense that pupils identify both peer supporters and teachers as credible sources of HIV/AIDS information. Even more is that in many places, pupils assess and rank peer supporters similar to teachers.

KNOWLEDGE

Adequate knowledge is recognized as a necessary, though not sufficient, condition for taking action to prevent HIV transmission and respond appropriately to the presence of AIDS in the community. Knowledge was measured using several clusters of questions on:

- Knowledge about HIV testing
- How STIs relate to HIV vulnerability
- Condoms as a strategy for reducing the likelihood of HIV transmission
- How sexual activity relates to HIV transmission
- Summative knowledge scale including all of the above.

In Nyanza schools, the average pupil and teacher scores on knowledge tests did not change significantly across the three waves of data collection (mean teacher score at wave 1 was 70% and at wave 3, 77%; mean pupil score at wave 1, 50% and wave 3, 52%). Differences in pupil scores across the different variations were small at wave 3. Only those between Rift Peer Supporter and Rift Control reflected a statistically significant difference for knowledge about sex and HIV and the summative knowledge scale.

Table 15: Mean Percent Correct Responses of Pupils in Each Variation at Wave 3

Scales	Nyanza Control	Nyanza Basic Target	Church Leader	Additional Teacher	Health Worker	Rift Control	Rift Teacher Only	Rift Peer Supporter Target
Testing Knowledge	44%	44%	42%	46%	44%	39%	37%	37%
STI Knowledge	42%	44%	42%	46%	42%	40%	37%	38%
Condom Knowledge	45%	48%	46%	49%	46%	44%	45%	47%
Sex Knowledge	54%	54%	54%	54%	55%	51%	52%	57%**
Summative Knowledge	52%	55%	53%	56%	54%	48%	50%	54%**

** Significantly higher than scores in Rift Control at $p \leq .01$

When considering the individual questions that were used to tap knowledge, pupils in all schools were most likely to answer correctly that in order to prevent themselves from getting infected with HIV and AIDS they could do the following things:

- Avoid having sex (66-78% in different variations answered correctly)
- Don't share razor blades and knives (63-67% in different variations answered correctly)
- Make sure any injections are done with a clean needle (57-73% in different variations answered correctly)
- Avoid shaking hands with someone sick with AIDS (62-70% in different variations answered correctly).

Questions that were least likely to be answered correctly included:

- Being faithful to one uninfected partner was a way to stay safe from HIV (31-40% answered correctly in different variations);
- Using a condom correctly when playing sex prevents infection (31-40% answered correctly in different variations);
- Decreasing the number of sexual partners reduces your risk of infection (25-38% answered correctly in different variations).

For the remainder of the questions generally between 45% and 55% answered correctly. It should be noted that this pattern of responses did not differ in target as compared to control schools, nor did it differ over the three waves of data collection.

Factors Influencing Knowledge

Few aspects of programme uptake influenced pupil knowledge, with most influence coming from school and community characteristics such as ethnicity and school resourcing. In multivariate analyses:

- Learning about abstinence had the most consistent effect across all types of knowledge. It was associated with higher scores on all of the knowledge tests for all pupils in Nyanza and knowledge about sex and HIV in Rift.
- In Rift, Peer Supporter schools maintained higher scores on the summative knowledge scale compared to either the Rift Control or Teacher Only schools, even when other factors, including implementation and abstinence teaching, were taken into consideration.
- Ethnicity had a major impact on knowledge
  - Schools with primarily Luo pupils scored significantly higher in all areas of knowledge.
  - School with primarily Kikuyu pupils scored higher in knowledge about STIs and about condoms
- Nyanza schools with higher resourcing scored higher on STI knowledge
- Rift schools with higher resourcing scored higher on knowledge about condoms and sex as well as on the summative knowledge scale.

When teacher knowledge was assessed, there were no factors on which we collected information that significantly influenced levels of teacher knowledge.

Knowledge Displayed in Focus Group Discussions

The knowledge results on surveys seemed to contradict conclusions that would be drawn from reading focus group transcripts and comparing pupil discussions of knowledge-related issues in wave 1 to wave 3. In wave 3 youth demonstrated a clear ability to explain how HIV was transmitted and how this could be prevented. They were able to identify a variety of risks and, by wave 3, were not including erroneous sources of risk (e.g., mosquitoes, touching others) as they had been in wave 1. Among the sources of risk that were both identified and explained were: sexual activity, circumcision, use of needles, sharing razors, and ear piercing.

Everyone should use his/her own sharp things and your blood should be tested first before transfusion…
You may shake hands with someone infected, who has a wound and if you have a wound too, the blood may mix then you get infected…
Don't have sex with anyone (RGirls1: 456-488).

Pupils regularly recited a formula for remaining 'safe' from sexual transmission:

(1) abstain until marriage,
(2) before marriage get tested,
(3) wait 6 months and get tested again,
(4) stay faithful to your husband/wife.

This is illustrated in the following quotation from a boys' focus group discussion:

We were told to avoid sex till marriage, which is after school. After taking her you don't have sex until you are both tested. If you are both clean then you can get married (NBoys5: 524-526).

The list of strategies that youth provided for maintaining abstinence and dealing with situations and pressures related to playing sex also demonstrated an increase in awareness, knowledge, and self efficacy when compared to the ways youth discussed sexual activity in wave 1.

Teachers also spoke of teaching about the dangers of circumcision and ear piercing when the same implement is used for several boys or girls and about HIV transmission through sharing razors, toothbrushes, or other articles that could draw blood.

Q: *What other ways have you told them to stay safe from HIV/AIDS?*
You may use a razor blade that was used by someone who has AIDS and if it cuts you, you may get AIDS. Also when they go for treatment they should be sure the needle used is a new one and not one used by someone else (NST9: 317-322).

We tell them that if they are using one object to piece their ears, it is not wise because the other person might be infected with AIDS. The razor blades they use to cut their nails, if they share them the other person maybe infected if it cut through your skin. Each person should have his instead of sharing with the other person. Also sharing of toothbrush each person should have his. We also told them of ways in which they may not get AIDS (RST4: 176-182).

Even the boys when they are being circumcised they should go to the proper person and avoid the local circumcision because you never know the tools the person is using they may be infected (NST9: 333-335)

Youth reflected back this knowledge in focus groups and were able to provide reasons why such practices were dangerous and also to discuss alternatives.

We have learned that it is always good for everyone to have his/her own sharp things like razorblades and needles…
If someone has a wound and he is infected and the other person also has a wound, but it is not infected, the wounds will meet if they are fresh with blood, the other clean person will be infected (RGirls1: 150-176).

You know the person who circumcises people uses the same knife. If one has HIV and it has been used on him, then he uses it on you, you can also be infected with HIV/AIDS…The knife used to cut your friend shouldn't be used to cut you…Your parents should buy a new knife and give it to the person who will circumcise you, and then they throw it away (RBoys2: 427-440).

You should buy your own pins and don't be wanting other people's pins because you might find it was used by someone with HIV/AIDS during plucking out objects out of the body then you will end up getting HIV/AIDS (NGirls8: 614-617).

If you share [razors] with someone who has it [HIV/AIDS], you can be infected and sharing at the barbershop can also make you be infected (NBoys9: 87-88).

They even recognized the practical difficulties in following safe practices.

Sometimes the teacher is coming to check nails so you just use any razorblade so as not to be punished (NGirls7: 488-489).

The one area where focus group discussions paralleled results on knowledge questions was related to condoms. Youth spoke of getting conflicting information about condoms. The most common approach to condoms described by youth was being told that condoms were not for them because they had holes and would not protect them from HIV, but that condoms were for married couples for family planning. Several boys and girls in focus groups readily identified this as puzzling since condoms with holes would not be useful for family planning. This kind of independent thinking also demonstrates gains in the area of knowledge since this type of independent reasoning was not evident in wave 1.

The differences between focus group and survey results have several possible interpretations. The focus group portion of the research relies on a small sample of youth selected by teachers because of their willingness and ability to articulate their views. These may, therefore, represent the most knowledgeable and sophisticated youth. However, the same selection procedures were used at wave 1 and there are clear differences in how pupils in waves 1 and 3 spoke about HIV and AIDS suggesting that although these may be the most competent youth, it would still be reasonable to expect a shift in scores on survey questions. A second possibility is that the survey questions did not accurately reflect pupils' knowledge. Perhaps pupils did not understand the language of the questions, the meaning of certain words, or how to respond to the questions. At wave 1, difficulties with language and understanding were already identified. These difficulties may be greater than anticipated.

COMMUNICATION AND PURSUING INFORMATION

Communication with others about HIV and AIDS is recognized as an important step toward recognizing, learning about and changing risk behaviours. The importance of communication to pupils was evident in focus group discussions where they consistently spoke of their desire to talk about HIV and AIDS with parents, community leaders and teachers and to learn from others in their community how to respond to this threat.

Sources of Information

When asked how much they had learned from a variety of sources there were substantial changes from wave 1. At wave 1 pupils reported learning about HIV and AIDS primarily from radio, television and other news sources. Teachers and school texts were among the least common source of information. At wave 3, pupils in Nyanza target schools were more likely than those in controls to say they had learned a lot from a wide variety of sources of information. While the top ranked sources of information were still radio and television, school texts and teachers were also commonly reported.

The list of information sources was shorter for Rift Valley schools, but here school texts, story books and teachers were at the top of the list.

In both Nyanza and Rift Valley there were no differences across any of the variations in the proportion of pupils who said they had learned a lot from church leaders or pastors.

For both regions, pupils said the most useful information they had obtained was from teachers and in schools clubs, with this response significantly higher for pupils in target than in control schools. This was decidedly different than responses at wave 1 where pupils listed radio as the source of their most important information.

Communication with Others

In the wave 2 and 3 surveys, pupils were provided with a list of people and asked which of those they wanted to speak to and which on the list they had spoken to. These questions produced three scalar measures. The measures represented wanting and having spoken with female relatives, male relatives and other community members. Results at wave 3 paralleled those at wave 2.

In all schools and at all waves of data collection, pupils were most likely to report talking to female relatives about HIV and AIDS (wave 3 overall mean score 4.40 for both Nyanza and Rift Valley compared to overall means of 3.41 for male relatives and 4.00 for other community members).

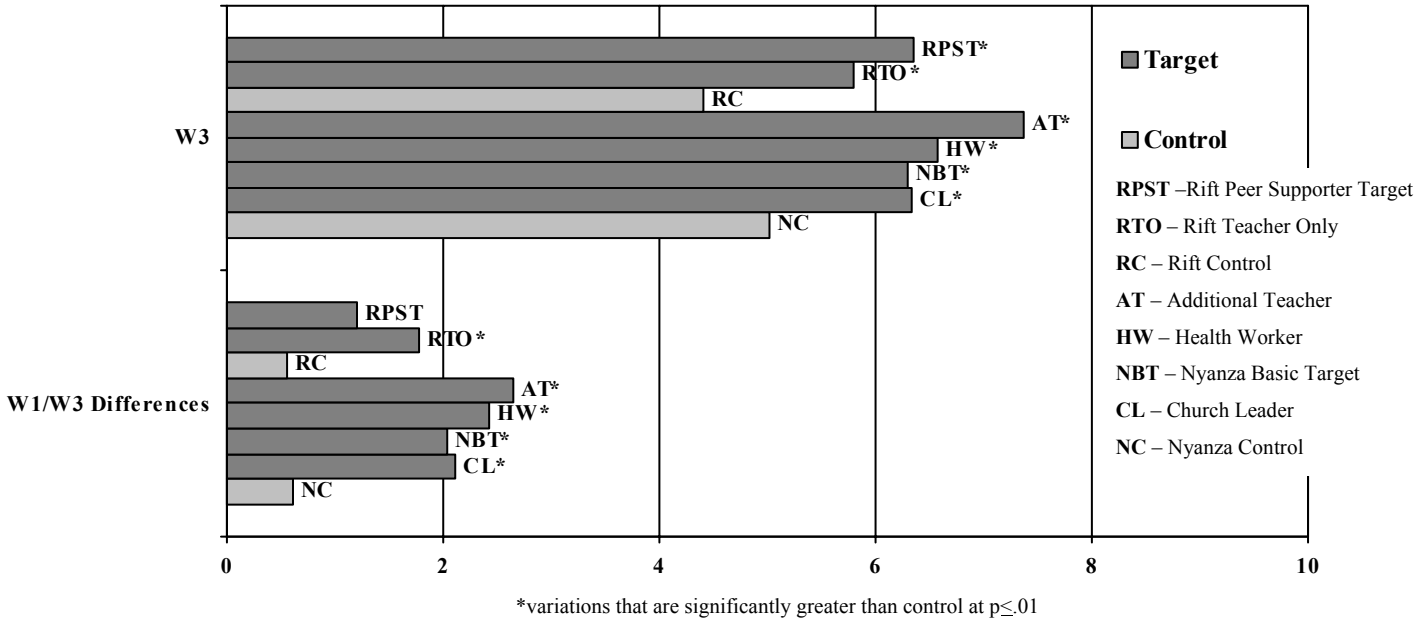
The only significant differences across variations were in the Additional Teacher and Basic Target schools in Nyanza where pupils at wave 3 were significantly more likely than pupils in control schools to indicate that they have talked to male relatives and other community members.

The factors influencing communication were similar to those influencing pursuing information (see below), suggesting that these were similar processes for pupils.

Pursuing Information

Survey results showed how pupils followed through with their desire for information. A scale was created using questions that indicated the degree to which pupils were pursuing information about HIV and AIDS. At wave 3, pupils in Nyanza and Rift Valley control schools had significantly lower scores than those in the target variations. Pupils in all Nyanza variations showed significantly greater increases than those in control schools from wave 1 to wave 3. In Rift Valley, only the pupils in teacher-only target schools showed significantly greater changes than those in control schools.

Figure L: Nyanza and Rift Valley - Level of Pursuing Information for Pupils:



*variations that are significantly greater than control at p≤.01

In multivariate analysis, pupils in Nyanza schools had higher scores for pursuing information and communicating with others where:

- Teachers were PSABH trained, with strongest impact in Additional Teacher variation schools;
- There were higher levels of programme implementation;
- Pupils reported more learning about abstinence strategies;
- Pupils scored higher on the knowledge questions;
- Pupils were primarily Kisii.

These factors all influenced pursuing information among Nyanza pupils, but only the degree of implementation of the programme had an influence in Rift Valley.

MAIN MODES OF PREVENTION: ABSTINENCE

While the "ABC" (Abstain, Be faithful to one uninfected partner and Use Condoms) approach has been widely discussed and recommended for prevention programming, most African leaders have put forward abstinence as the preferred strategy for unmarried youth. This chapter presents results from the PSABH programme for teaching about and changing knowledge, attitudes, and behaviours related to abstinence.

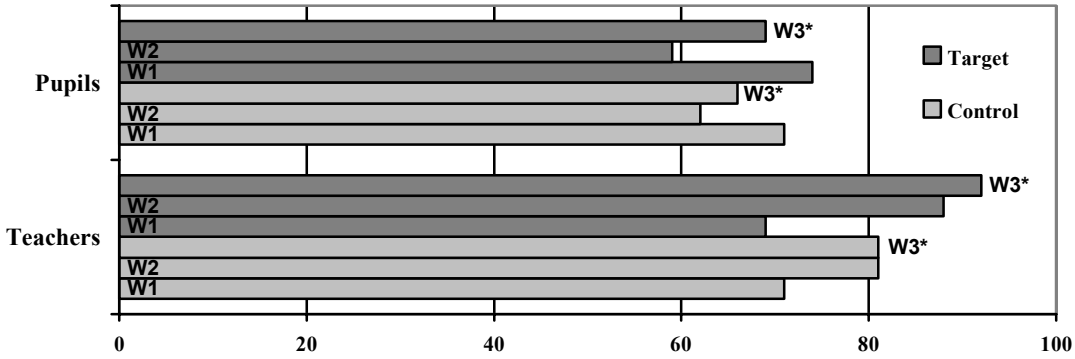
Knowledge

As discussed in the earlier chapter on knowledge, the two prevention methods that pupils were most keenly aware of were: abstain to avoid HIV (they know they can be infected by playing sex) and do not share dirty instruments (i.e., needles, razor blades, etc). From both survey and focus group results, it appears that these are the main messages that youth are "getting" or "comprehending."

In both Nyanza and Rift, teacher and pupil responses to questions about preventing HIV by avoiding sex followed similar patterns in control and target schools. Both were relatively high in wave 1 (60-75% correctly answered in Nyanza and over 80% in Rift). Teachers' knowledge increased significantly, with gains greater in target than control schools in Nyanza, but about the same in the two groups in Rift Valley. The percentage of pupils correctly answering that avoiding sex was a way to stay safe from HIV decreased in both target and control schools at the second data collection (wave 2 Nyanza, wave 3 Rift). In Nyanza much of the loss was regained at wave 3, particularly in target schools. As already discussed in the *Knowledge* chapter, these results ran contrary to the extensive discussions in focus groups about avoiding sex as the "best" or "only" way to stay free from HIV – a conviction that was articulated with greater certainty in wave 3 than in waves 1 or even 2.

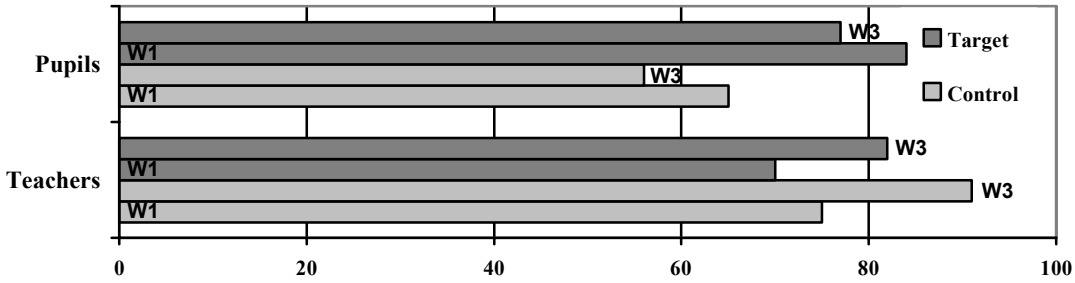
> *Doing sexual intercourse with any person, you can get AIDS anytime…if you play sex with an infected person* (NBoys3: 543-555).
>
> *If you avoid sex you will not get HIV/AIDS* (RBoys2: 174).
>
> *I have learned not to play sex* (NGirls7:313).
>
> *I don't think there is anything much apart from abstaining from playing sex* (NBoys9:137-138).
>
> *That, sex is the main way of transferring HIV/AIDS so we should avoid* (NGirls9:443).
>
> Q: *What have you learned about staying safe from HIV/AIDS?*
> *Avoid sex…Not to pick any needles or razors…Not to share razors* (NBoys6: 345-351).

Figure M: Nyanza - Percentage of Teachers and Pupils With Correct Answers: 'You Can Prevent HIV by Avoiding Having Sex'



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Figure N: Rift Valley - Percentage of Teachers and Pupils With Correct Answers: 'You Can Prevent HIV by Avoiding Having Sex'



Sexual Scripts

Analysis of wave 1 focus group discussions provided insight into how sexual activity occurs for youth in Nyanza and Rift Valley. Pupils consistently described a sequence of events and interactions that started with boys initiating contact with girls in response to signals they felt girls were sending or personal interest in a particular girl. Once begun, a sequence of scripted events proceeded, culminating in a girl and boy playing sex. Youth felt that having a boyfriend or girlfriend was a necessity, that they would lose their boyfriend or girlfriend if they did not play sex, and that there were multiple pressures on them to become sexually active. The scripted nature of the sequence (i.e., boys and girls having precise roles to play in a series of consecutive events) led to these being called sexual scripts[5].

The sexual script described in wave 1 was highly gendered. Boys are the initiators and actively move the interactions along to insure the end result, i.e., playing sex. Girls primarily respond to boys with signals. Boys interpret these signals as readiness to proceed to the next sequence in the script or as requiring further convincing or coercing

[5] See *Qualitative and Quantitative Integrated Pre-Programme Report* (August, 2002) for a detailed discussion of sexual scripts.

to move to the next stage in the script. There was no evidence at wave 1 that girls considered themselves able to change the course of events or that boys were willing to change it.

A series of questions were designed to tap beliefs about the gendered nature of these scripts. Pupils were asked whether they believed a girl means no (or whether she means yes) when she says no to playing sex, and whether it was always necessary for a boy to pressure a girl to play sex. Across waves 2 and 3, between 45% and 60% of pupils endorsed the ideas that girls did not mean 'no' and needed to be pressured to play sex. Boys were more likely to endorse these beliefs than were girls. While the differences between girls and boys were slight at wave 2 (4-5%), by wave 3, 10-15% fewer girls than boys endorsed beliefs that girls did not mean what they said. With respect to the need to pressure girls, however, boys and girls were nearly equal in endorsing this statement in both waves of data collection and for both target and control schools. While there were no significant differences between target and control schools in Nyanza, in Rift schools fewer girls and boys in Peer Supporter schools endorsed the need to pressure girls (28% girls and 39% boys in Peer Supporter compared to 49% of girls and 50% of boys in control schools) or that girls really meant 'yes' when they said 'no' (42% of boys and 34% of girls in Peer Supporter compared to 47% of boys and of girls in control schools). These results suggest that in Nyanza schools more girls are rejecting the idea that "no means yes," but they are just as likely as boys to feel a boy needs to pressure a girl into playing sex. In Rift, however, both boys and girls in Peer Supporter schools are rejecting or questioning these ideas. Perhaps the presence of Peer Supporters has an influence on how pupils perceive the sexual script and their beliefs about the roles of girls and boys in these scripts.

> *They* [peer supporters] *tell us to stop prostitution and persevere…Let us stop forcing girls.*
> Q: *What do you mean force a girl?*
> *To rape* (RBoys1: 1597-1604).

> Q: *How do* [peer supporters] *help?*
> *If you have a boyfriend, they tell you not to make love.*
> Q: *So they tell you if a boyfriend asks you to make love you refuse?*
> *Yes* (RGirls4: 1193-1198).

As already described in the chapter on *HIV/AIDS Activity in the Schools*, there was considerable evidence from wave 3 interviews and focus groups that teachers were teaching specific strategies for resisting pressures to play sex and redirecting the sexual script. Similar evidence was present in wave 2. The difference at wave 3 was that such evidence took up larger portions of the focus group discussions and interviews and was present for boys as well as girls. The concern expressed in response to the wave 2 results that the focus was exclusively on girls taking the role of "gatekeeper" and regulating their own and boys' sexual desires was clearly not supported by the wave 3 data. Here it was boys as much as girls who discussed strategies they took and the struggles they actively engaged in to avoid sexual activity.

Don't roam about where the girls wear the mini skirts you don't go…If you stay idle so much you just think how you can get a girl…Play football, like we have a lot of football tournaments here (Rboys2: 626-628).

It is not difficult it is easy to abstain…When you feel like having a girl you can use that energy in the field to dig…You can do hard work…You can even go to fetch water from the river severally and pour down the water till you are tired and avoid the girls (Nboys11: 516-525).

Don't go out and start talking or smiling at any girl who is well dressed and take her to your home. Don't be laughing at anyone especially when you don't know her at all. (Nboys8: 337-339)

The boys, however, still frequently spoke of their struggle controlling their 'bodily urges.'

As long as you are an adolescent you just erect upon seeing a girl (Nboys5: 729-730).

There is a certain feeling-sexual feeling it is really good and nice feeling that automatically comes and it also thrills (Nboys6: 345-346).

They have got used to [playing sex]. *Even if he misses for a day they feel sick…and begin to steam up…*
Q: *How do they steam up?*
They erect (Nboys10: 707-713).

Among some boys there was still the belief that abstinence would lead to barrenness.

I have heard some people say that if you don't have frequent sex you can lock your penis and remain barren forever (Nboys5: 706-707).

Both girls and boys appeared to be expressing a sense of control over their sexuality and appeared to be more willing to wait for boyfriend/girlfriend relationships, to redefine these relationships as ones that do not necessarily include sex, and to reject the idea that sex is an expected part of daily life for youth of their age. Not playing sex was spoken of as a sign of maturity in one boy's focus group.

We are approaching being mature people, so we should avoid doing such things, which are childish. (Nboys8: 558-559)

Unlike the fears that both boys and girls expressed in wave 1 of losing their boyfriend or girlfriend if they did not play sex, in wave 3 they spoke of leaving the relationship if their boyfriend or girlfriend was pressuring them to play sex.

Wave 1

Q: *What happens if you refuse?*
He will look for another girlfriend and you are left (RGirls5W1: 351-354).

They fear to be left by their boyfriends if they refuse (Rgirls1W1: 342).

Wave 3

If he is your boyfriend and forces you then you can refuse.
Q: *How can you refuse?*
You separate.
Q: *What other way can somebody refuse?*
Not accepting gifts.
Q: *Can somebody refuse to be forced?*
Suppose you have a boyfriend then he forces me into sex then I can refuse.
Q: *You avoid him or how are you going to refuse?*
I'll refuse talking to him (RGirls4: 889-907).

Attitudes Toward Abstinence

In earlier waves of data collection, teaching about the need for abstinence appeared to be based *exclusively* on a message of fear (e.g *you must say 'no,' it is the only way… if you don't you will get AIDS and die).* In wave 3 interviews, teachers also spoke of other reasons for abstinence: it was important to insure school completion and it was supported by religious teachings, and by local custom. While these reasons appeared occasionally in wave 1 interviews, they were more prominent across the interviews at wave 3. Thus, abstinence appeared more often as a positive choice – there are good reasons to choose abstinence – rather than abstinence as the only choice available to avoid death.

If you abstain from sex, your life would be longer and you would not have HIV/AIDS (NBoys9: 199-200).

When a boy approaches you for friendship you have the right to tell him that you are still in school and you do not want to hear about sex (NGirls5: 772-773).

That their bodies are very important and they are for reproduction and not for being infected by HIV/AIDS (NST6: 236).

You can see your brothers and sisters how they are doing, they are educated and have jobs and you think I have to be like them. Then you abstain (NGirls9: 724-726).

When we are through with school and when you have built your house, then marry a wife and support yourself (NBoys11: 487-488).

...my body is the temple of Christ so I must take care of it (RGirlPS: 136).

We try to tell them that sex is not bad. But one should be prepared in life i.e. after one has gone through education, through a course, acquiring a job then later on one can involve him/herself in sex, after one is happily married (RGirlPST4: 191-194)

We should respect ourselves and avoid playing sex with girls (NBoys8: 554).

The concrete reasons and strategies for abstinence that youth were asking for in earlier waves of data collection by wave 3 were filtering into youth and teacher reports of AIDS teaching in the schools and communities.

If you refuse the money you will not engage in sex (RGirls4:685).

Should a lady bring up the topic of sex you stop her…You tell her that kind of talk is not healthy (RBoys4: 940-943).

If it is a boy he has feelings for a certain girl, then … when that type of feeling comes, he should leave that place and go and do something else (RPST2: 566-569).

...the girls should especially avoid companies of other boys who may force them to play sex (NHT11: 257-258).

Another thing a teacher told us is that when a boy has an urge to play sex he should instead go to the garden and dig (NGirls8: 841-842).

Personal Agency

The increased teaching about abstinence as a positive choice and about the strategies to insure abstinence were filtering down to pupils' sense of personal agency or self efficacy, the belief that they *could* abstain. From wave 2 to 3, the percentage of pupils who expressed confidence in their ability to abstain rose nearly 10% from 50-60% to 50-70%. These were the percentages that reported they could have a boyfriend or girlfriend for a long time without playing sex and/or could tell their boyfriend or girlfriend that they would not play sex until marriage. These changes were evident in the responses of both boys and girls and in control as well as target schools in Nyanza. In Rift Valley, while girls were more confident in their abilities than boys in control schools, there was no significant difference between them in target schools. A significantly higher percentage of boys in Peer Supporter schools expressed confidence in their ability to abstain than in control schools (69% in target vs 53% in controls said they could have a girlfriend for a long time and not play sex; 78% in target and 60% in control said they could tell their girlfriend that they wanted to wait until marriage). Girls, on the other hand, were no more likely to be confident in their ability to abstain in target than in control schools.

A related question was whether pupils felt they could say no to playing sex. The same pattern was evident here, with no significant differences between boys and girls, control and target, or across the waves of data collection in Nyanza. In Rift, the gender differences observed in wave 1 were eliminated by wave 3. This was primarily because of an increase in boys saying they could 'say no' to playing sex. The percentages across all waves and genders ranged between 59% and 68% with the lowest in Nyanza Control schools and the highest in Rift Peer Supporter schools.

Half or more of pupils indicated on surveys that they felt in control of their sexual decisions and that they could abstain. While in earlier waves of data collection this was not supported in the focus group discussions, by wave 3 it was. Pupils recognized the pressures they faced that pushed them to play sex – especially the pressures boys felt from their biological drives.

> Q: *What do you mean when you say somebody has erected?*
> *The "car" penis…makes you to hit.*
> Q: *That makes you to play sex?*
> (All) *Yes…when the car has erected it makes the blood to run and you kind of sweat and the fire comes and then you start saying I belong to the guys* (RBoys1: 588-609).

But they spoke at length of strategies they had learned in school to deal with these. While they said that at times it would be difficult, they expressed confidence that they could, and would, abstain from sex.

> *The body at times pushes you and wants that you play sex with a girl. We are advised that if you feel that, you go somewhere and work so that your body can cool down but if you just eat and be idle that can bring you this disease* (Nboys8: 548-551).

> *It is not difficult* [to abstain]…*because my body does not govern me, it is I...*
> *Me also, it is not difficult…because my body is not governed by anyone but me…*
> *The body is not difficult to take care of it…When the body feels like it wants a boy it is good for you to bring a book and start reading it, that way you have prevented yourself from going out. If you see you are going to fetch water …and meet this boy and he is disturbing you…it is good you stop going to fetch water and do some other work, which will make you pass time. So when you have abstained from temptations of your body that day is over* (NGirls6: 424-445).

> *That if you are on heat then you can use a maize cob* (NGirls5: 729).

> *My penis, because it's me who will get an erection if I want sex but if I don't want I will not erect so there is no way that thing is possible* (NBoys10: 933-934).

Commitment to Abstinence

The evidence from focus groups and surveys on pupils' perceptions that abstinence was a desirable choice and one that they were able to realize were also seen in their responses to questions designed to measure how committed they were to the choice of abstinence. Commitment to abstinence was already high at wave 1 and continued to be high in both target and control schools at wave 3. However, multivariate regression analysis demonstrated the importance of an HIV/AIDS programme in the school and teaching about abstinence to this commitment. The average commitment to abstinence was higher in schools:

- With greater school resources reflected in higher school SES scores;
- Where pupils were learning more about how to resist pressures to play sex;
- In Nyanza where:
  - Pupils had higher knowledge about HIV and AIDS (recall that knowledge was higher in schools with more teaching about abstinence);
  - Where pupils were not predominantly Kisii;
- In Rift where:
  - Peer Supporters were trained;
  - Fewer pupils were pursuing information on their own and communicating with others in their community about HIV and AIDS.

Sexual Behaviour: Abstinence

For playing sex, prevention programmes can potentially have an effect on two outcomes. First, for pupils who have not yet initiated sexual activity when the programme begins, (i.e., pre-programme virgins), a desired outcome is that they not initiate sex during or after the programme. Second, for those who are already sexually active (i.e., pre-programme non-virgins), a desired outcome is that they return to celibacy or abstinence.

Sexual Initiation or Debut

To test whether the programme had an effect on initiating sexual activity, the percent of pupils who initiated sexual activity in the year prior to data collection was compared at each wave. For wave 1 PSABH was not in schools during this time; whereas, for waves 2 and 3 PSABH was in the schools during most, or all, of the year prior to data collection. Since initiation of sexual activity may vary based on the season of the year (e.g., many rites of passage ceremonies are scheduled during December) or the stage in school (data from waves 1 and 3 were collected near the end of a school year and wave 2 near the beginning), results must also be interpreted with these potential variations in mind.

When examining the changes in sexual debut over the 3 waves of data collection, what is evident is that there are differences in boys and girls. In Nyanza debut decreased for both boys and girls in wave 2 compared to wave 1, with no significant difference between target and control schools for girls but the decrease greater in target than control schools for boys. By wave 3 there is an increase in debut compared to wave 2 for both boys and girls, with the increase greater in control than target schools. When the pre-programme rates are compared to those at wave 3, boys have a significant increase in control schools (12% higher at wave 3 than 1) but no significant change in target schools (2% higher at

wave 3 than 1). For girls, the decrease in target schools is greater (7% lower at wave 3 than 1) than in control schools, where the change is non-significant (3% lower at wave 3 than 1).

Turning to schools in Rift Valley, there is a decrease in debut for boys, though this is greater in control than in Peer Supporter schools; whereas, for girls there is no significant change.

This suggests that the programme has had the desired effect on sexual debut in Nyanza, with a sizable decrease for girls in target compared to control schools and no change for boys in target compared to an increase in control schools. The results for Rift are less clear, with the only significant change a decrease in control schools for boys. This may be the result of the shorter time that the programme was operating in Rift than in Nyanza.

Figure O: Nyanza and Rift Valley - Percentage of Pupils Who Initiated Sexual Activity in the Year Prior to Data Collection

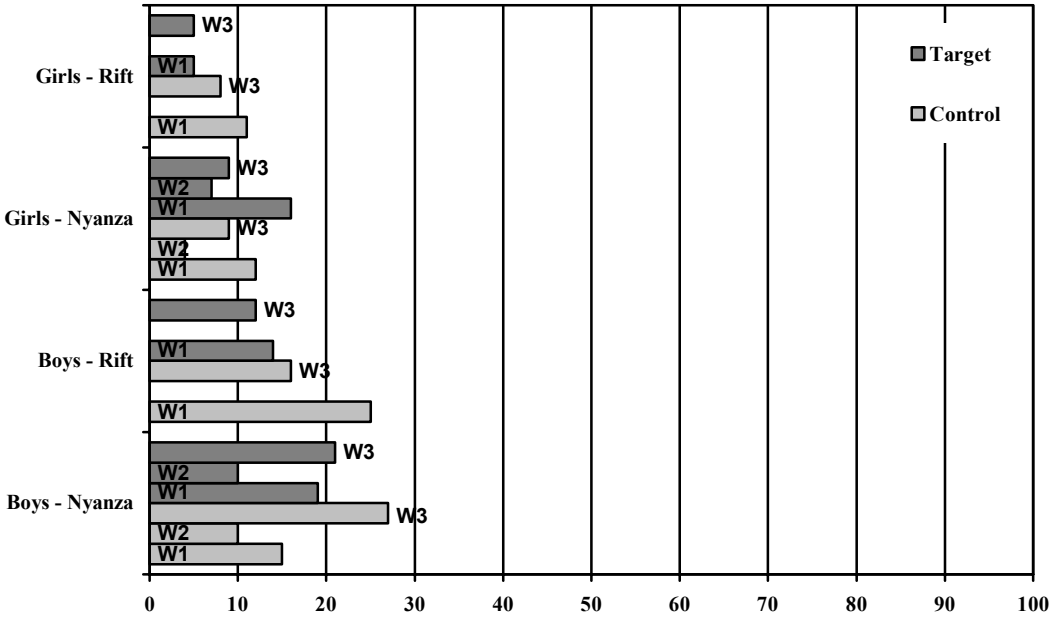
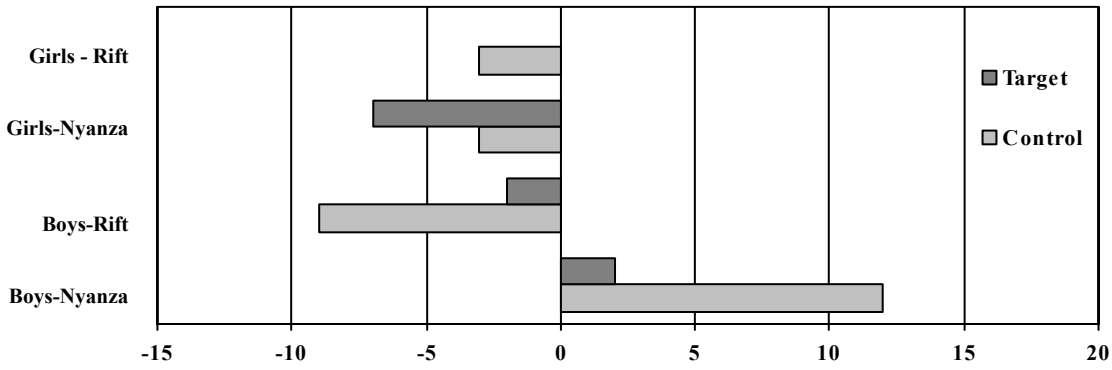


Figure P: Nyanza and Rift Valley - Percent Change in Pupils Who Initiated Sexual Activity in the Year Prior to Data Collection



Recent Sexual Activity

The effect on boys is also evident in considering their responses to questions on refusing to participate in sex at some time during the past 3 months. This question was only asked at waves 2 and 3 and what is evident is that more boys in both control and target schools refused at wave 3 than wave 2, with this somewhat higher in target schools. For girls, on the other hand, there is no change in the percentage refusing to engage in sex.

Results are less positive for questions on using the strategy of avoiding certain places for the purpose of avoiding sexual activity and questions asking about recent sexual activity. In both cases, behaviour changes are opposite to the desired direction. Over the 3 waves of data collection, fewer boys and girls reported avoiding places where they might be enticed into playing sex and more of those who were sexually active reported sexual activity in the past three months. These changes have occurred in control and target schools in both Nyanza and Rift except that recent sexual activity increased more among both boys and girls in Nyanza target schools (17% higher at wave 3 than wave 1) than control schools (12% higher for boys, 11% higher for girls at wave 3 compared to wave 1).

When the different variations were examined, there were no significant differences found among them, i.e., the variations are producing approximately the same results as the basic PSABH training model.

Factors Influencing Sexual Activity

In multivariate analyses, one factor significantly influenced sexual debut during the programme year -- pupil reports of learning specific strategies for abstinence. In schools where pupils reported more learning about how to abstain, there were fewer who initiated sexual activity during the programme year. This was consistent across Nyanza and Rift schools and regardless of variation group.

When considering recent sexual activity, in Nyanza schools, more boys reported sexual activity in the past 3 months in schools where the boys had a lower commitment to

abstinence. More girls reported sexual activity in the past 3 months in schools where girls were pursuing less information and reported communicating with fewer other people about HIV and AIDS.

In Rift schools, recent sexual activity was higher among boys in:

- Control schools;
- Where boys had lower knowledge scores
- Where their commitment to abstinence was lower.

None of the factors considered were able to explain the rates of recent sexual activity among girls.

Refusing to engage in sex and helping a friend avoid playing sex were both influenced by how much teaching about abstinence occurred in schools in both Nyanza and Rift. For girls, their commitment to abstinence was also important, particularly in Nyanza.

MAIN MODES OF PREVENTION: CONDOMS

For those who are sexually active, condoms are an effective way to reduce the spread of HIV and the personal risk of infection. Condom education and support have, however, been difficult to implement in school-based programmes across much of sub-Saharan Africa (Gallant & Maticka-Tyndale, 2004). The situation in Nyanza and Rift Valley schools was no different.

Teaching About Condoms

Abstinence was the dominant method for preventing HIV acquisition promoted in all schools.

> *Well at school we have not been able to expose them to this particular material because we talk abstinence. Although we have the knowledge on the use of condoms even to demonstrate how to use it we have not been able to expose this to the pupils* (RHT1: 233-236).

> *Personally I have not talked to them but they know them. You will find that when you are talking to them there are those who will come with questions as "if you use condoms?" But we insist it is only abstinence that will help one from contacting AIDS* (RSRT2: 188-191).

Teaching about condoms was presented as being in conflict with promoting abstinence.

> *If we tell others* [some pupils] *to abstain and others to use condoms, we will be contradicting ourselves* (NSRT5: 410-411).

> *We do not encourage them to use condoms because they are too young to play sex. We would tell them to use condom but at their age because they do not have their partners, we do not encourage them to use condoms, we just say No to sex that is the only solution* (NHT3: 259-262).

The silence that was common was supported by two beliefs voiced by both teachers and community representatives. The first was that if youth learned about condoms they would lose their motivation to abstain. Although teachers were promoting a number of positive reasons for abstaining, they felt that without the fear that sex could result in HIV infection, i.e., if youth had a way to be sexually active and safe from AIDS, they would not abstain. The second belief was that condoms were inherently flawed and fallible and did not provide adequate protection against HIV. Their primary flaw was that they had holes or were porous and allowed HIV to pass through. A secondary flaw was that they could slip off the penis or burst. If this happened, the condom was likely to be lost inside the girl or woman. When this happened a woman was not only exposed to potentially infected semen, but her life and health were endangered by the presence of the condom and it required medical intervention to remove it.

In primary level you don't need to tell them that condoms can assist them or help them. They are not 100%. You see they are young and can misuse them…So the only thing and the only answer is to tell them no and no. No to sex…just abstain (RHT2: 547-559).

We tell them about condoms but the main thing is to abstain since when you tell them about condoms it is like encouraging them to go and play sex. They are still young and the only thing to tell them is to abstain completely may be those in secondary can use it using condom is not discipline it only promotes sex (NCL3: 251-260).

We tried to explain that HIV virus is very small…that it would pass through the breathing pores of the condom (RPST4: 137-139).

We asked the teacher that when you play sex and you use a condom you get HIV/AIDS. And he told us that it has several holes. (NGirls9: 975-984).

One time there was a girl who had agreed to play sex with somebody and the person used a condom. The condom burst and remained inside the girl, the girl started complaining about stomach till she was taken to the hospital. The girl did not say there was anything inside her but when examined it was discovered really there was a condom in her (RBoys1: 719-723).

In interviews and focus groups, teachers and pupils alike said that the most common message taught in schools was that condoms were only for married couples. They were not for youth since they did not prevent transmission of HIV. They either had holes or were too porous to prevent HIV from passing through. It is interesting that the Roman Catholic Archbishop of Nairobi in November 2003 was reported by the BBC News to have made this same claim in a speech (Gould, 2003)[6]. In focus group discussions pupils often spoke of the inconsistency in this message and asked, "If they have holes, why are they any good for married people?"

Most of the time you are told that condoms cannot prevent HIV but are meant for family planning (NBoys5: 410-411).

At times the condoms are good at times they are said to be bad. So we don't know the real truth about condoms (NBoys10: 1017-1018).

Some teachers, however, did report speaking to pupils who were already sexually active, advising them that if they could not abstain the only chance they had of avoiding HIV was to use condoms. They added that condoms were not 100% effective, but they were better than nothing.

[6] Gould, P. (November 25, 2003). The Vatican's condom challenge. BBC News.

Condom Knowledge

Despite the numerous statements by teachers in interviews that denied that condoms could be relied upon to prevent transmission, a large proportion of teachers were correctly answering the question about condom efficacy at wave 1 and continued to do so across all waves of data collection. In Rift Valley correct identification of condoms as a method for preventing transmission increased substantially, more so in target than control schools, while in Nyanza responses fluctuated across phases of data collection, but with teachers in target schools remaining higher than those in controls.

What only began to be tapped in wave 2 surveys were myths about condoms. As seen below, few teachers were aware that, for example, condoms do not remain inside a girl if they slip off. Health workers (often referred to by pupils as doctors) were able to dispel the myth that if a condom remains inside a girl it requires medical attention for removal and has the potential of causing death.

> *A doctor taught us that when you want to play sex with someone you can use a condom, then we asked him "what if a boy uses a condom then it slips and gets into the girls body"?…*
> *He told us whoever uses condoms must be using it wisely. He cannot just use it without knowledge. We also asked that we heard the condoms have holes in them, if it was true.*
> Q: *What did he say?*
> *He said the condoms are made in a good manner, that it cannot harm anyone* (RGirls1: 239-253).

Figure Q: Nyanza - Percentage of Teachers With Correct Answers

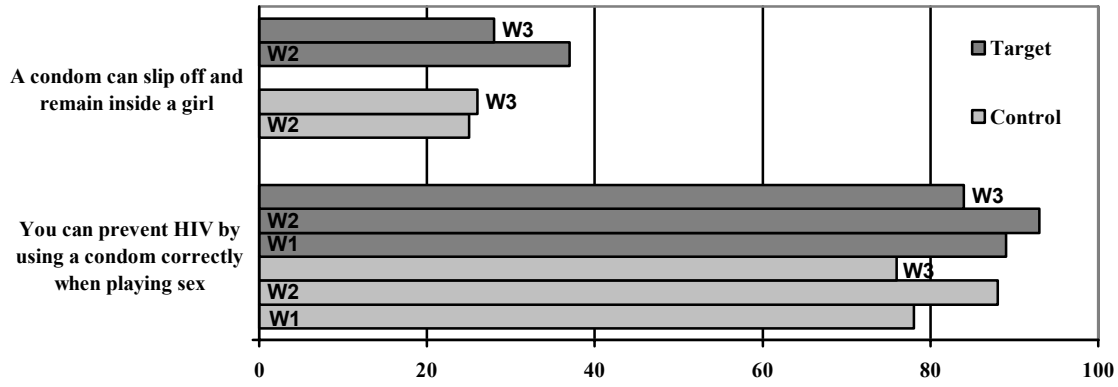
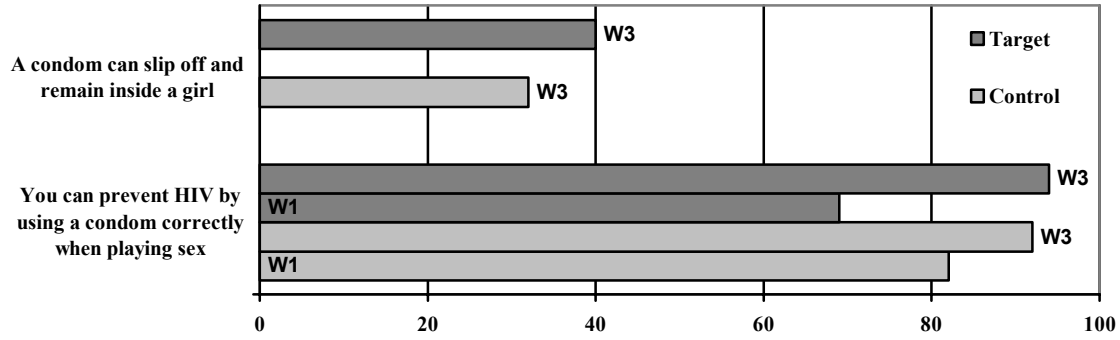
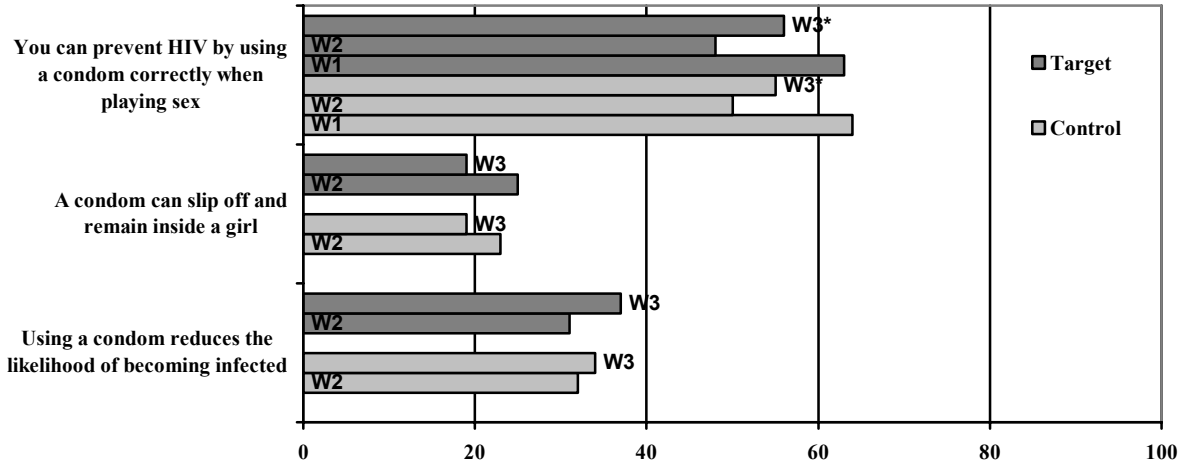


Figure R: Rift Valley - Percentage of Teachers With Correct Answers



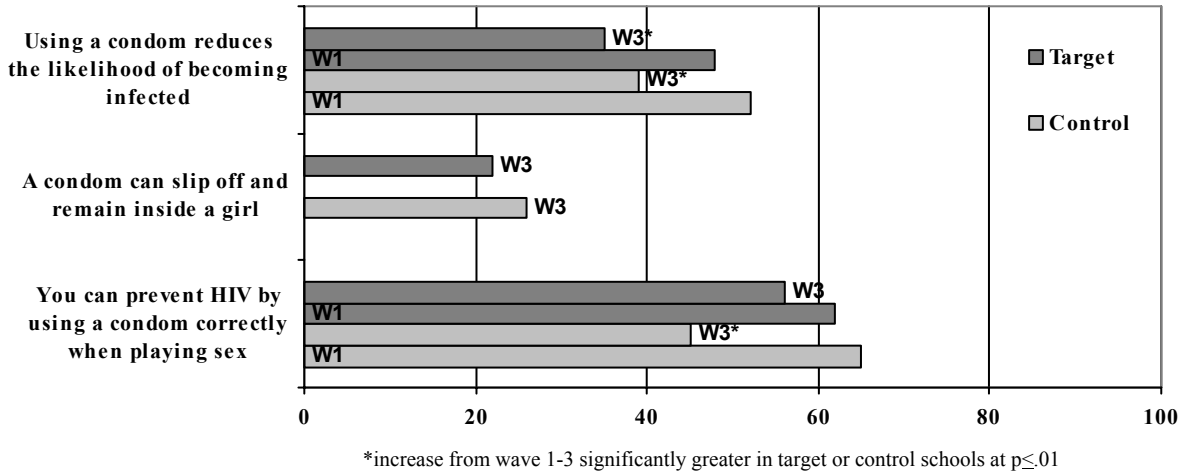
It is not surprising that pupil knowledge about condoms was generally poor. Although 60% at wave 1 (both Nyanza and Rift) knew that you could prevent HIV by using a condom correctly when playing sex, this percentage decreased at wave 2 and only came up slightly at wave 3 in Nyanza schools. At wave 2 a more qualified statement about condoms was added to the survey, saying that condoms can reduce the likelihood of infection rather than stating that it could prevent infection. However, at both waves 2 and 3, pupils were even *less* likely to endorse this statement than the absolute efficacy statement. There was, however, a larger wave 2 to 3 increase in endorsements in target than control schools. In addition, pupils were as likely as teachers to have the impression that a condom would remain inside a girl if it slipped off.

Figure S: Nyanza - Percentage of Pupils With Correct Answers



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Figure T: Rift Valley - Percentage of Pupils With Correct Answers



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Of note is that results did not differ significantly across variations with only one exception, at wave 3, pupils in Peer Supporter schools in Rift Valley were significantly more likely than those in Rift Control schools to recognize that using a condom could prevent infection (57% and 46% respectively).

As already noted, in wave 3 (as in wave 2) youth were aware of the conflicts between the messages they were receiving. It is important to recognize that they were not passive recipients of this conflicting information. It was clear that they were thinking about what they were being told, and were both asking for further clarification or formulating their own *condom knowledge*. They recognized that their condom knowledge was incomplete. When asked in focus groups what else they needed to know and learn about HIV and AIDS, the most common requests were for accurate information about condoms.

> *We hear advert from the radio that even when you go to the shop don't feel shy, just say you want Trust [brand name] condoms…We do not know whether Trust condom is the good or the bad one…Some people say that condoms protect us from diseases…that people should use condoms but I think those are assumptions* (NGirls5: 1383-1405).

Condom Attitudes

Teachers held strongly to the view that teaching about condoms would encourage youth to play sex at wave 1. While there was less endorsement of this view in Nyanza target schools at wave 2, and in the most recent data collection in Rift Valley, endorsement returned to the pre-programme level for Nyanza schools at wave 3.

Figure U: Nyanza - Percentage of Teachers Who Strongly Agree that:

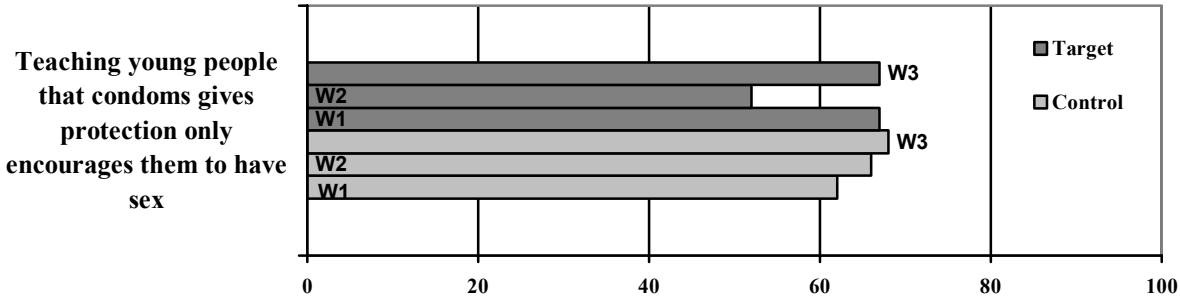
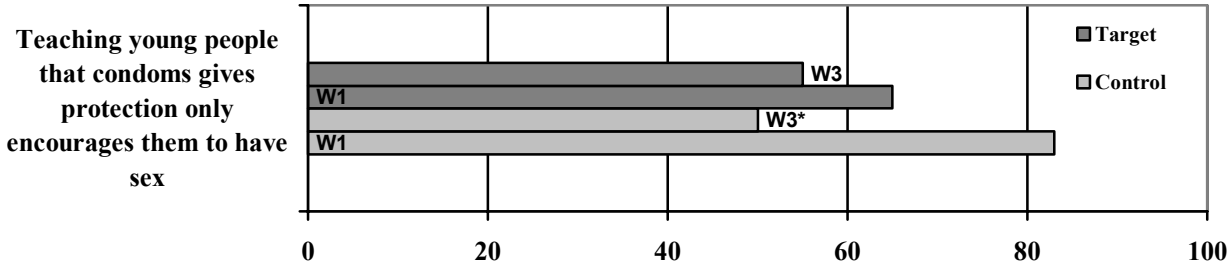


Figure V: Rift Valley - Percentage of Teachers Who Strongly Agree that:

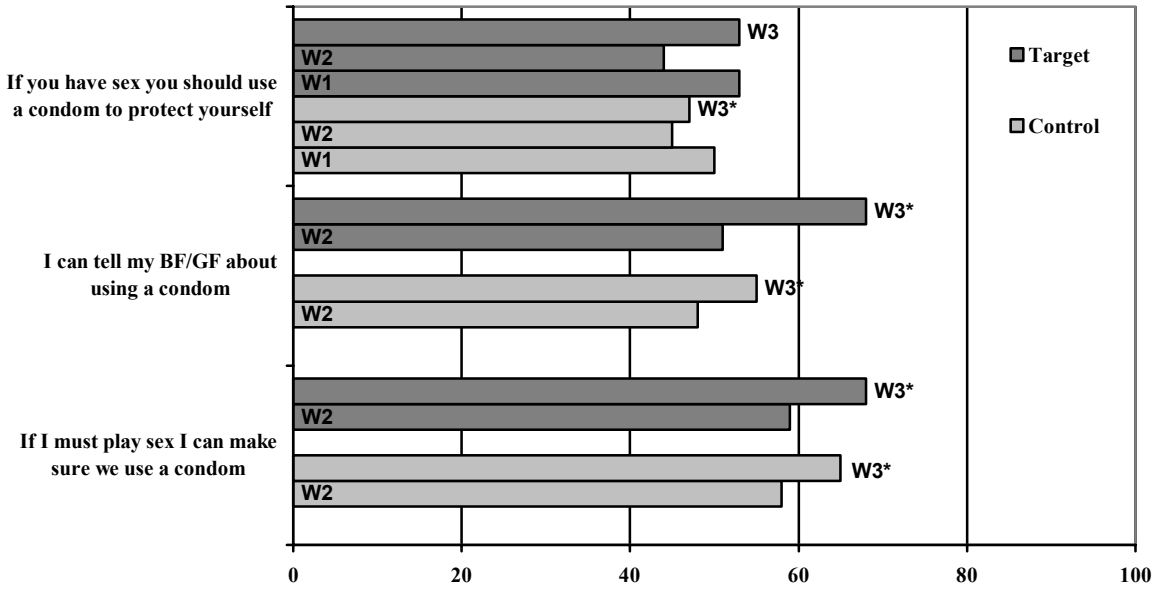


*increase from wave 1-3 significantly greater in target or control schools at p≤.01

In all waves of data collection and across both target and control schools, about half (40-60%) of youth held to a norm supportive of condom use for those who engaged in sex and had a sense of personal agency or self efficacy with respect to their ability to talk about or use condoms. The key differences evident in this area were that:

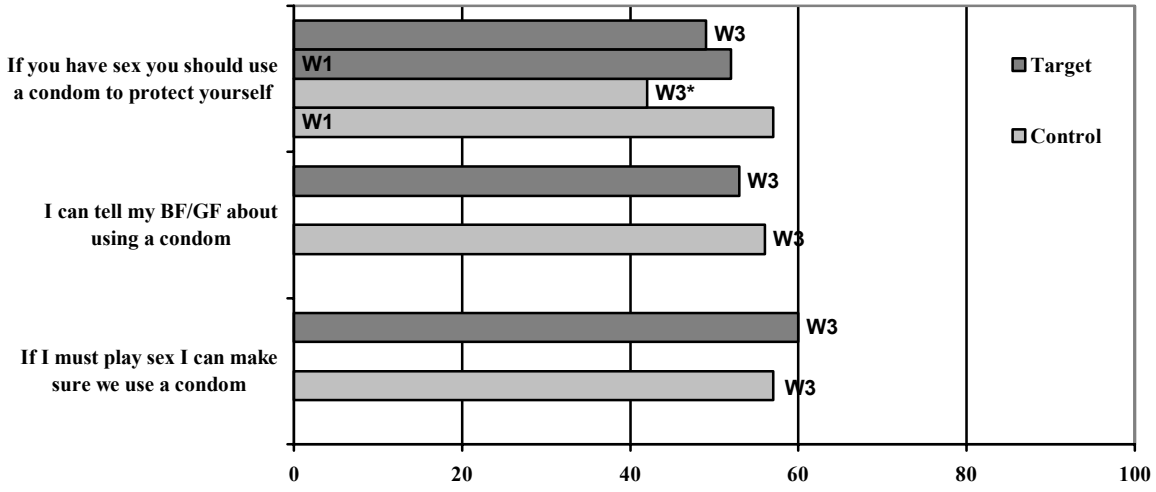
- Significantly more pupils in target schools in both Nyanza and Rift felt that you should use a condom if you play sex.
- Pupils in Peer Supporter schools in Rift Valley were substantially more likely than those in control schools to feel they could tell their boyfriend or girlfriend about using condoms. Pupils in Nyanza target schools were no more likely than those in controls to feel they could do so.
- There were no differences in either region in the percentages in control and target school who felt they could make sure a condom was used.

Figure W: Nyanza - Percentage of Pupils Who Agree:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

Figure X: Rift Valley - Percentage of Pupils Who Agree:



*increase from wave 1-3 significantly greater in target or control schools at p≤.01

At both waves 2 and 3, knowledge and attitudes related to condoms did differ somewhat between pupils who were sexually experienced and those who were not. Pupils with sexual experience scored significantly higher on almost all questions tapping knowledge, attitudes, norms and self-efficacy related to condoms than those without experience and, at wave 3, those in target schools were higher than in controls on several items. This suggests that those with sexual experience were accessing or developing the knowledge and attitudes necessary to use condoms more than those who were not yet sexually active.

Condom Use

To date, school-based programmes on HIV prevention in sub-Saharan Africa have found it particularly difficult to effect an increase in condom use among sexually active youth. Results for PSABH are much the same.

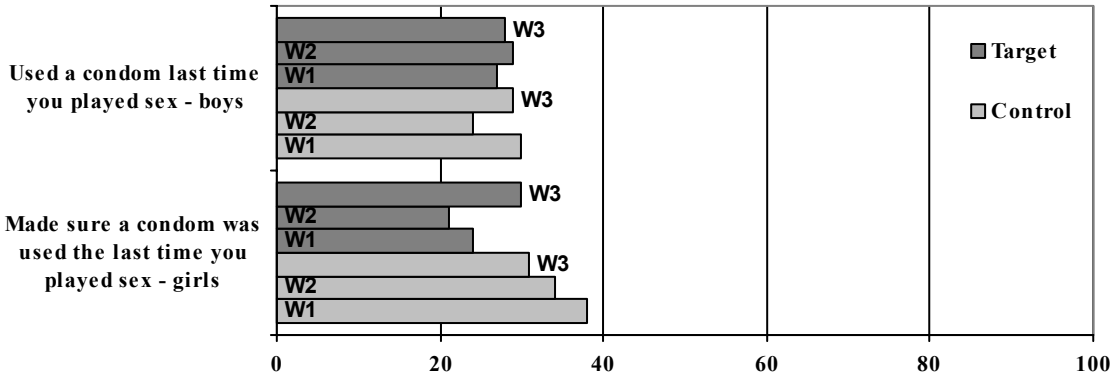
Boys

Reports of condom use fluctuated over the three waves of data collection in Nyanza with greater fluctuation in control than target schools but ultimately with no significant differences between the two in wave 3. In Rift, condom use decreased slightly among boys in target schools and increased in control schools.

Girls

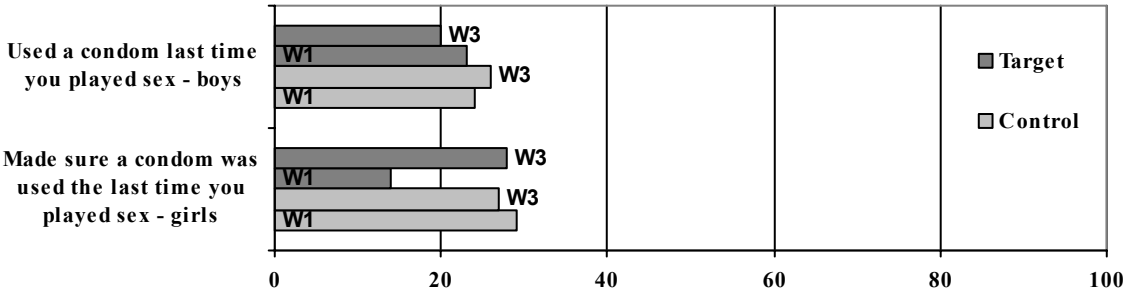
What was somewhat surprising was that when all waves of data collection were considered for girls, there were sizable increases in condom use for girls in both Nyanza and Rift target schools. Rates of condom use were lower at wave 1 in target than in control schools, but by wave 3 they were equal to controls.

Figure Y: Nyanza - Percentage of Pupils who are sexually active who:



Girls are based on 602 wave 1 control, 383 wave 3 control, 623 wave 1 targets & 299 wave 3 target.
Boys are based on 733 wave 1 control, 850 wave 3 control, 854 wave 1 target and 805 wave 3 target.

Figure Z: Rift Valley - Percentage of Pupils who are sexually active who:



Girls are based on 62 wave 1 control, 73 wave 3 control, 116 wave 1 target, 123 wave 3 target.
Boys are based on 147 wave 1 control, 135 wave 3 control, 263 wave 1 target and 328 wave 3 target.

When examining the school-level regression analysis, Nyanza schools with higher proportions of boys reporting condom use at wave 3 were more likely to:

- Not be schools in the Additional Teacher or Health Worker variations;
- Have more evidence of the HIV/AIDS programme in the school;
- Have lower levels of teaching strategies for abstinence.

In Rift Valley, higher proportions of boys reported condom use at wave 3 in schools where:

- There were lower levels of teaching strategies for abstinence;
- More boys had engaged in sexual activity in the past 3 months.

For girls, Nyanza schools with higher proportions of girls reporting condom use at wave 3 were most likely to have:

- Lower levels of teaching strategies for abstinence;
- Predominantly Kisii pupils;
- Fewer pupils for each teacher.

For Rift Valley girls, schools with higher proportions of girls reporting condom use at wave 3 were most likely to have:

- Higher levels of teaching strategies for abstinence;
- Higher levels of knowledge about HIV and AIDS among the girls;
- Higher levels of knowledge among the teachers;
- Fewer girls who initiated sexual activity during the programme;
- More girls who reported sexual activity during the last 3 months.

PSABH COMPARED TO OTHER SSA SCHOOL-BASED PROGRAMMES

Gallant and Maticka-Tyndale (2004) in "School-based HIV prevention programmes for African youth" compared 11 evaluated school-based HIV/AIDS prevention programmes from sub-Saharan Africa for content, method and results. Five were in primary and 6 in secondary schools. The question addressed here is: *How does PSABH compare to these programmes?* Answering this question is difficult since a direct comparison between PSABH and other programmes in sub-Saharan Africa cannot be made for three reasons:

(1) Differences in programme design, implementation and evaluation;
(2) Extraneous and uncontrollable factors that influenced uptake of PSABH;
(3) The presence of considerable HIV and AIDS programming in control schools.

Differences in design, implementation and evaluation between PSABH and other programmes in Sub-Saharan Africa.

There is only one programme reviewed in the Gallant and Maticka-Tyndale article that shares enough content and method with PSABH to draw a meaningful comparison. This is the Ugandan programme evaluated by Shuey et al. (1999) in which HIV/AIDS teaching and activities were infused and integrated throughout curricular and co-curricular activities. As with PSABH, there was no set time period, amount of time, or duration for the programme since it was expected to be present across the curriculum and to remain active over time. There was, however, a difference in the context of the programme and its evaluation. In all other reviewed programmes there were either:

- Specific, limited activities brought to the school (e.g., a drama production, board game, specific class); and/or,
- The programme was designed to be taught in a limited number of hours (most typically 20 hours total).

This makes all other programmes more limited in scope and easier to monitor, test and evaluate. Because PSABH and the Ugandan programme are more diffuse, they have greater potential for success in changing pupil attitudes and behaviours, but they are also:

- More difficult to implement;
- Take longer to get "up and running"; and,
- Their effect on pupil attitudes and behaviours is likely to:
  - Be more diffuse;
  - Follow indirect pathways of influence; and,
  - Take longer to evidence.

Note that the Ugandan programme was not evaluated until it was in place for 24 months.

Extraneous and Uncontrollable Factors which influenced PSABH implementation and uptake

There is no evidence of major disruptions in implementation of any of the other programmes; whereas, PSABH was disrupted by a teachers' strike and influx of new pupils. Consider the dates below:

PSABH Training Completed	Programme in Schools	Data Collected for Evaluation
Course A – April 2002	May-July 2002 (3 mos)	SRS/CRS August 2002
Course B – August 2002	September 2002* (1 mos)	Teacher & Pupil surveys Feb** & Oct 2003
Peer Supporters – Feb 2003	February- October 2003 (8 mos)	

* Teachers on strike October – early November 2002, remainder of November disrupted with campaigning for election and 'catch-up' to prepare for KCPE exams.
**Average 30-40% increase in pupils in STDs 6 &7 in January, 2003 with announcement of free primary education. No immediate increase in teachers or teaching resources.

In effect, although the October 2003 data sere collected 18 months after Course A was completed and HIV and AIDS programming could be initiated in the schools, the disruptions in late 2002 and early 2003 provided considerably less than 18 months for actual programme implementation.

Extent of HIV/AIDS Programming Present in Control Schools

A lot of HIV/AIDS programming has been taking place in the control schools and in all communities served by PSABH. Kenya in 2002 and 2003, and Nyanza Province in particular, appears to be at a more advanced stage of general programming on HIV and AIDS than were the other countries where school programmes were implemented in the early to mid-1990s. As a result, there is more overlap in outcomes in target and control schools than is evident in other programmes. In PSABH, target schools are often "better" than controls, but in many cases this is by a small degree since controls have also taken steps to implement HIV/AIDS education.

What *can* we say about PSABH relative to these other programmes?

Recognizing the above limitations to drawing comparisons between PSABH and other school-based programmes evaluated in SSA, several tentative conclusions *can* be drawn.

Communication

All programmes that targeted and measured communication about HIV and AIDS found an increase. PSABH produced a similar increase.

Knowledge and Attitudes

There were mixed results with respect to changing knowledge and attitudes related to abstinence, condoms, and general information about HIV and AIDS in other school-based programmes. There have been no gains in knowledge scores resulting from the survey in PSABH schools. In focus groups pupils in PSABH trained schools are able to provide accurate descriptions of how HIV is transmitted and how transmission can be prevented. They are also less likely to be repeating myths about HIV than they were prior to programme implementation.

Behaviours

Sexual Debut

Two programmes produced a reduction in pupils initiating sexual activity. The Ugandan programme evaluated by Shuey et al. (1999) found a reduction when comparing sexual initiation before the programme and among pupils who had been part of the programme for 24 months. A secondary school programme in Namibia evaluated by Stanton et al. (1998) found no changes in sexual debut at the immediate and 6 month evaluations, but did find that fewer *girls* reported sexual initiation once the programme had been in place for 12 months. This was a limited, after-school programme delivered by trained (40 hours training) teachers and out-of-school youth.

For the PSABH programme, there have been more substantial gains in reducing sexual debut of boys and of girls in target than control schools. Controlling for levels of sexual debut during the year prior to PSABH, 10% fewer boys and 4% fewer girls in target than control schools report sexual debut in the year during which the programme was in place in their schools. It is important to note that there were changes in sexual debut in control as well as target schools, suggesting that the programming that is in place in all schools is having an effect, but the effect is more pronounced in PSABH trained schools.

Condoms

All but two of the programmes reviewed by Gallant and Maticka-Tyndale (2004) reported problems with teaching about condoms. In one case (Kinsman et al. 2001), the evaluators reported that the information about condoms contained in the programming worked against implementation of the programme and, consequently, the programme was actually implemented in very few of the targeted communities. In other cases, community and school resistance to including information about condoms led to these portions of the curriculum being dropped. Two programmes did include condom information. One was an after-school programme delivered by a physician and teacher(s) in secondary schools in Nigeria (mean age 17-18 years) (Fawole et al. 1999), the other was a programme that used drama to deliver and teach about HIV and AIDS (including about condoms) to STD 8 pupils in South Africa (mean age 17.6 years) (Harvey et al. 2000). Only the latter programme recorded an increase in condom use among pupils 6 months after the programme was in place.

Condoms proved to be a difficult topic in the PSABH schools. From the SRS results it was evident that teachers were struggling with what to say and consequently were relying primarily on an abstinence message. The CRS results showed that condoms were not an acceptable message in the communities either. At 6 month evaluation the struggles continued. Where information about condoms was communicated to pupils it was almost exclusively negative information designed to discourage condom use and push pupils to see abstinence as the only method to keep themselves safe. By the final evaluation the messages have shifted to become somewhat more conditional. While condoms were still described as an undesirable and inappropriate response to AIDS risk because they were porous and could let the virus slip through, they were also described as appropriate for married couples practicing contraception. In addition, some teachers reported speaking to pupils who were already sexually active and advising them that if they could not abstain

their only chance of preventing infection was to use condoms – even though condoms were not 100% effective.

While it is difficult to draw direct comparisons between PSABH and other school-based programmes in SSA, the evaluation results appear as promising as those from other programmes.

CONCLUSIONS

Perhaps the most concrete attestation to the success of PSABH is the enthusiasm of schools and zonal inspectors for the programme. This enthusiasm has been demonstrated on numerous occasions during the evaluation phase.

- Schools assigned to the control group have found ways to get their teachers trained, at times coming to training uninvited.
- Zonal inspectors who are also PSABH trainers have held their own training sessions for schools that were not part of the target group.
- Trainers, when faced with teachers and church leaders who did not attend the sessions to which they were invited, took extra steps to insure that they were able to participate in later sessions.
- When offered the possibility of training if they 'covered the costs' of their teachers attending, schools in Rift Valley worked with CfBT staff to creatively solve cost problems.
- So many schools attended training in Rift Valley that we had difficulty finding matched controls.

Unfortunately, for the evaluation researchers, this enthusiasm presented immense methodological challenges. Even at this point, we cannot be certain that all schools in the 'control' groups truly are controls, i.e., have not received training in PSABH. However, what these events tell us is that, regardless of the formal evaluation results, the PSABH programme is acceptable to schools and schools want this programme. This is an important endorsement for a programme that deals with difficult topics such as AIDS and sexuality.

All indicators from the evaluation support the conclusion that the strategies taught to teachers and peer supporters as part of PSABH have been implemented in the schools. Implementation of programme components remained high in target schools across both post-training phases of data collection, despite a drop-off in HIV programme components reported in control schools between the two post-training waves of data collection. There is also evidence that teachers have taken command of the programme and made it their own by modifying and adding to it. For example, teachers responded to information about the sexual scripts of youth and how youth felt forced to engage in sexual activity by numerous pressures, beliefs and interactions, by focusing on strategies to re-direct the scripts. Pupils took up these lessons, endorsing the strategies and repeating them back as their own during focus groups discussions. Teachers also modified the information they received in training about condoms to fit local understandings and beliefs. The majority of myths circulating among pupils and teachers prior to PSABH disappeared by the final wave of data collection. The one myth that continued was that condoms were porous and allowed the HIV virus to pass through. The persistence of this belief is not surprising since it is one that has been endorsed by a variety of authoritative sources, including the Catholic Archbishop of Nairobi. In addition, many teachers were, by October 2003, prepared to speak with youth who were sexually active and advise them that condoms were a necessary precaution against HIV – even though they were not 100% effective.

This represents a sizable shift from what was earlier being taught about condoms, i.e., that they offered no protection and, in fact, contributed to the spread of HIV.

The evaluation of the peer supporter component of the programme suggests that peer supporters make a substantial contribution. Youth respond well to the peer supporters and both teachers and pupils recognize that the conversations that peer supporters can have with pupils is different than that between teachers and pupils. Peers can, and do, speak of specific details of negotiating relationships and HIV safety. The evaluation results for peer supporters, while collected less than a year after peer supporters were trained and active in schools, already demonstrated greater gains in schools with peer supporters than those without.

Zonal inspectors have demonstrated their ability to monitor the programme and provide feedback and support to teachers. The reports of zonal inspectors on their monitoring instruments closely correlated with those of pupils and teachers collected independently through surveys and interviews. In fact, the training of teachers in control schools and the spread of PSABH lessons and strategies across schools is much to the credit of zonal inspectors.

When considering the variations on the basic PASBH model, the only one that demonstrated a clear advantage was when additional teachers were trained. Training church leaders and health workers and directing them to participate in the HIV and AIDS programming in the schools did produce greater assurance that they would visit the schools. However, it had no influence on the lessons they brought once they were in the schools. Health workers, whether or not they were trained by PSABH, were able to dispel certain myths about condoms and to provide useful and accurate advice about condoms to pupils (e.g. the ease of removing a condom from a girls' vagina if it slips off, how to keep it from slipping off, that there are good quality condoms and it is the poor quality ones that leak). But, they, as did church leaders and teachers, focused on abstinence as the only truly safe and effective way to prevent HIV transmission.

Using a combination of survey and focus group results it is clear that PSABH demonstrated clear gains for pupils. Compared to pupils in control schools, pupils in PSABH schools:

- communicated more openly about HIV and AIDS with each other, teachers, parents and other community members;
- identified the school as their primary source of quality information about HIV and AIDS;
- were independently pursuing information about HIV and AIDS;
- while their scores on formal tests of knowledge had not improved, in discussions they were able to describe how HIV was transmitted and what procedures could be used to prevent transmission or decrease risk, i.e., they were thinking critically and logically about risk and prevention;
- reported that they were able to abstain from sex and that they had learned and endorsed a variety of strategies for dealing with the pressures that pushed them to engage in sexual activity, i.e., abstinence strategies;

- were asking questions about what they saw as inconsistencies in the information they had received about condoms, i.e., that they were too porous to protect against HIV but were effective when used by adults for contraception;
- girls in particular:
  - demonstrated greater assertiveness about their own sexuality;
  - expressed less 'need' for either a boyfriend or for sexual activity;
  - were better able and more willing to identify situations of sexual coercion as ones where sex was the result of force rather than consent;
- fewer boys were reporting sexual activity;
- fewer boys and girls reported initiating sexual activity during the programme.

By wave 3 of data collection, i.e., 18 months after trained teachers were deployed in target schools in Nyanza, specific community and school characteristics such as the level of resourcing in a school, the number of teachers, the ethnic or religious mix of pupils or teachers, were no longer influencing implementation or pupil outcomes. This, together with the demonstrated effects of the programme lead to the conclusion that PSABH is an effective approach to providing HIV and AIDS education to primary school pupils in a variety of settings.

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APPENDIX A: METHODOLOGY DETAILS

Quasi-experimental, multi-stage, stratified, disproportion random sampling was used to select schools to participate in this research.

Sampling Procedures

Nyanza Province

- Stratification of schools by district and academic performance was established in the following steps:
  - Schools in Nyanza province were listed by district and zone.
  - Schools in each zone were rank ordered and divided into thirds by academic performance of their pupils using mean scores attained on annually conducted, standardized national examinations (KCPE exams).
  - Four lists of schools were established for each zone. These comprised four separate sampling frames:
    - Potential target schools – to receive PSABH programme:
  - top performing school overall, i.e., top in the top third (referred to as top target).
  - top performing school in the bottom performance third (referred to as bottom target).
    - Potential control schools – not to receive PSABH programme:
  - second highest performing school overall, i.e., 2nd in the top third (referred to as top control).
  - bottom performing school in the second performance third (referred to as bottom control).
- Schools were randomly selected from each of the 4 lists using the following criteria:
  - < 20% from top and ≥ 80% from bottom;
  - The number selected in each district was approximately proportional to the number of zones in the district; and,
  - Equal number of target and control in each of top and bottom groups in each district.
- Sixteen of the 160 schools in the full sample were chosen for in-depth qualitative data collection in wave 1. School selection ensured equal representation across target and control groups, ethnicity, and schools whose pupils scored at the top and bottom of standard academic evaluations (KCPE exams). The 16 schools comprised:
  - 8 target and 8 control schools;
  - 8 schools with predominantly Kisii and 8 with Luo pupils; and,
  - 8 top and 8 bottom performing schools.

Beyond this breakdown, schools were selected to maximize diversity and with attention paid to feasibility of access. To be eligible for selection schools had to:

- Have enough boys or girls in standard 7 and 8 to provide at least 5 boys or 5 girls for a focus group discussion; and,

- Be accessible to the research team which had to transport equipment from a central location to the school.

Four (two Kisii and two Luo) of the 8 target schools were selected based on ease of accessibility to participate in in-depth, wave 2 data collection.

Beginning with the 160 schools in the sample, schools were further sub-divided into the following variations:

Additional Teacher Schools

The objective in training additional teachers was to see if additional trained staff increased the amount of programming in the schools. From the schools which had already sent a full complement for training to the regular training sessions (i.e., 2 teachers and a community representative), 21 schools were originally invited to sent an additional 2 teachers for training. Of these, only 10 schools were able to send the additional teachers for training.

Health Worker Schools

The objective in the Health Worker variation was to see whether a health worker could add to the amount and range of information on HIV prevention strategies brought to schools, particularly with respect to condoms as a prevention tool. Health workers whose geographic areas of responsibility covered 22 of the target schools were trained to deliver HIV prevention education in schools. Each health worker visited his or her designated school at least twice with the purpose of supporting teachers and providing information about prevention strategies directly to pupils.

Church Leader Schools

Churches sponsor a majority of schools in Nyanza Province. The objective of this variation was to see whether training a leader from the church that sponsored a school, at the same time that teachers from that school are trained, would encourage a coalition of school and church in prevention education that would be more effective in producing behaviour changes. Twenty-two of the control schools were selected to participate in this variation. Schools were selected to represent communities where different Christian churches predominated, where churches were already active in HIV programming, and where the participating school was sponsored by a church. For each of these schools, the head teacher, senior teacher and a church leader from the denomination that sponsored the school were invited, and funded, to participate in the 2 training courses.

Only 10 of these schools sent the full complement (including a church leader) to the training sessions in January 2003. Concern over the poor attendance inspired trainers to hold a second session in June 2003 for which an additional 7 schools and 5 of the schools trained in January sent participants. Thus, there are a total of 17 schools which are identified as being part of the Church Leader variation.

There were 3 schools which sent participants to one of the training sessions but did not include a church leader. Since these could no longer be identified as control schools, these schools were dropped from the Nyanza sample.

Target schools which, according to CfBT records, had received training and were not part of the Additional Teacher or Health Worker variation were now classified as Nyanza Basic schools. Control schools which, according to CfBt records, had not received training were now classified as Nyanza Control schools.

Rift Valley

Rift Valley was the selected site to test a cost sharing variation on the basic PSABH model. Schools in the region were invited to training, but were required to pay the costs for participants to attend, while the costs of the training itself were paid by CfBT. Consequently, target schools in this sample were self-selected.

A total of 60 schools were part of the Rift Valley sample. These were divided into three variations, Rift Peer Supporter/Cost Share; Rift Teacher Only; and Rift Control.

Of the schools which self-selected into PSABH training and had a full complement of participants (2 teachers, a community representative and peer supporters), 20 were selected for evaluation purposes. These schools were matched as best as possible based on demographic characteristics with 20 schools that, at the start of the evaluation period, had not selected into training. An additional 20 schools that self-selected into training at a later date were assigned to a Teacher Only training group, i.e., they were not provided with peer supporter training until after the evaluation period.

Data Collection:

- All pupils in Standards 6 and 7 and, in most cases, two teachers (head teacher and preferably a senior female teacher) in each of the 160 selected schools were invited to complete surveys at wave 1 (November 2001-Nyanza; July 2002-Rift), wave 2 (February 2003-Nyanza, no wave 2 data collected for Rift) and wave 3 (October 2003-both Nyanza and Rift). At wave 2, the head teacher in one school did not permit pupils to participate in data collection. At both waves of data collection, teachers in two schools (not the same schools at each wave) refused to complete surveys. This produced pupil self-completion surveys in 160 schools in wave 1 and 159 in wave 2 and teacher self-completion surveys in 158 schools in wave 1 and 2.
- Zonal Inspectors were trained to complete School and Community Responsiveness Surveys based on personal observations and conversations with teachers, pupils, and community members. This data was collected in August 2002 and again in August 2003 in Nyanza and March 2003 in Rift. Following the second collection of SRS and CRS data, in Nyanza, there were 5 control schools that claimed to have sent a full-complement of teachers to both training sessions and that these teachers were training others in their respective schools. These schools were dropped from the sample.
- Zonal Inspectors were trained to collect pregnancy data based on interviews with teachers for all schools in Nyanza. Pregnancy data were collected in 156 schools.
- At wave 1, semi-structured, in-depth interviews were conducted at each of the 16 sites in Nyanza (8 target, 8 control) and 6 in Rift (4 target, 2 control). Interviewed were:
  - 1 head and 1 senior teacher with an attempt made to ensure at least one interview was with a senior female teacher; and,

  - The chief or assistant chief and the head of the women's group or otherwise recognized influential woman in the community served by the school.
  - In addition, a focus group was conducted with either 5 boys or 5 girls from standard 7 and 8. In Rift schools, two focus groups were held at each site (one with boys and one with girls). Participants for focus groups were selected on the advice of teachers based on their willingness to talk about issues related to HIV/AIDS and sexuality.
- At wave 2, semi-structured, in-depth interviews and focus group discussions were conducted at each of four selected sites in the same manner as wave 1 except that two focus groups were held at each site (one with boys and one with girls).
- At wave 3, semi-structured, in-depth interviews and focus group discussions were conducted at 3 sites in Rift (all peer supporter schools) and 8 in Nyanza (2 Church Leader, 2 Health Worker, 2 Basic Target and 2 Control). Separate focus groups were conducted with trained peer supporters from several schools at a central location, 3 each with boys and girls.
- All survey instruments and interview schedules can be found in Volume II.

It must be noted that not all data were collected for each data collection instrument in all schools. Reasons for missing data included: teacher refusal to have pupils participate in data collection, teacher refusal to participate in survey completion, oversight or misunderstandings on the part of zonal inspectors or Steadman Research staff with respect to which schools were scheduled for data collection, or difficulty in accessing a school at a particular time. Table 2 summarizes the number of schools and the number of individual participants for whom data were collected with each instrument at each wave.

Table 16: Final Samples for Data Analysis - Nyanza Province

	Number of Schools		Number of Pupils, Teachers, or Community Members Responding	
Database	**Target**	**Control**	**Target**	**Control**
Wave 1				
Pupil Survey* (PSC)	82	78	3420	3381
Teacher survey (TSC)	82	76	218	222
Teacher interviews	8	8	16	16
Community interviews	8	8	16	16
Pupil Focus Groups	8	8	40**	40**
Pregnancy Data	80	76	--	--
Mid-Wave				
School Responsiveness (SRS)	81	78	--	--
Community Responsiveness (CRS)	81	77	--	--
Wave 2				
Pupil Survey* (PSC)	81	78	3133	3266
Teacher survey (TSC)	80	78	154	160
Teacher interviews	4	0	8	0
Community interviews	4	0	8	0
Pupil Focus Groups	4	0	40**	0
Pregnancy Data	80	76	--	--

Database	Number of Schools					Number of Pupils, Teachers, or Community Members Responding				
Variations Introduced	**NBT**	**HW**	**AT**	**CL**	**NC**	**NBT**	**HW**	**AT**	**CL**	**NC**
Mid-Wave										
School Responsiveness (SRS)	51	22	10	17	50	--	--	--	--	--
Community Responsiveness (CRS)	51	22	10	17	50	--	--	--	--	--
Wave 3										
Pupil Survey*** (PSC)	49	22	10	17	50	2904	1355	560	929	3248
Teacher survey (TSC)	49	22	10	17	50	102	44	20	34	110
Teacher interviews	2	2	2	2	--	4	4	4	4	--
Community interviews	2	2	2	2	--	4	4	4	4	--
Pupil Focus Groups	2	2	2	2	--	20	20	20	20	--

Notes: Based on final ranking of schools as control or target.
* Only pupils 11-16 years of age; in wave 2, only pupils who reported attending school in 2002.
** 20 boys, 20 girls in 4 focus groups for each gender
*** Only pupils 11-17 years of age

Table 17: Samples for Data Analysis – Rift Valley

	Number of Schools			Number of Pupils, Teachers, or Community Members Responding		
Database	**Target**		**Control**	**Target**		**Control**
Wave 1						
Pupil Survey (PSC)	21		19	1259		976
Teacher survey (TSC)	21		19	63		58
Teacher interviews	4		2	8		4
Community interviews	4		2	8		4
Pupil Focus Groups	4		2	40		20
Mid-Wave						
School Responsiveness (SRS)	27		14	27		14
Community Responsiveness (CRS)	26		14	26		14
Variations Introduced	**RPST**	**RTO**	**RC**	**RPST**	**RTO**	**RC**
Wave 3						
Pupil Survey* (PSC)	19	29	11	1581	2130	734
Teacher survey (TSC)	19	27	11	38	54	22
Teacher interviews	3	--	--	6	--	--
Community interviews	3	--	--	6	--	--
Pupil Focus Groups	3	--	--	30	--	--
Peer Support Focus Groups	--	--	--	30	--	--

* Only pupils 11-17 were included in wave 3 analysis.

Measures

Following are descriptions of the variables used in the multivariate analyses. Details of the exact coding and combination of survey questions to create each variable are contained in Volume II in the coding guides.

School and Community Characteristics

Characteristics of schools and communities were drawn from data obtained through the SRS and CRS and by aggregating pupil or teacher responses provided on Self-Completion surveys. The following school characteristics were examined as potential influences on uptake or results of the PSABH programme:

- Level of school resources or school SES – this indicator was created based on information on structural facilities such as classroom space, windows, desks;
- Mean KCPE scores of pupils in each school were divided into quintiles based on the school's rating within the province (i.e., quintiles were established separately for Nyanza and Rift);
- Level of staffing as reflected in pupil/teacher ratios;
- Proportion of female teachers in the school;
- Religious sponsorship of schools; and,
- Dominant ethnic group of pupils within the school (based on 90% of pupils claiming a particular ethnic affiliation).

Table 18: School Profiles

Mean scores across all schools	Nyanza					Rift Valley		
	Control	Church Leader	Basic Target	Health Worker	Add'l Teacher	Control	Teacher Only	Peer Supporter Target
School SES (1-100) Range = 43-58	55	54	55	55	53	61	67	68
KCPE Score Range = 1-5	2.9	3.1	3.1	3.0	3.2	2.4	2.8	3.7
Pupil-Teacher Ratio Range = 9-112	40	40	46	45	40	52	38	53
Proportion of Female Teachers Range = 0-100	31	38	33	26	35	27	49	52
% no religious sponsor	30%	6%	14%	18%	0%	100%	90%	42%
% Catholic sponsor	26%	18%	43%	36%	40%	0%	0%	32%
% Mainline Protestant Sponsor	26%	53%	31%	46%	40%	0%	10%	16%
% Breakaway Traditional Sponsor	18%	24%	12%	0%	20%	0%	0%	10%
% schools with Luo pupils	56%	76%	57%	54%	50%	0%	0%	0%
% schools with Kisii pupils	36%	24%	29%	23%	40%	0%	0%	0%
% schools with Kikuyu pupils	0%	0%	0%	0%	0%	83%	62%	37%
% schools with mixed other pupils	8%	0%	14%	23%	10%	17%	38%	63%

To test the potential influence of churches on uptake or outcomes of PSABH, the following indicators of church activity were established using the CRS:

- Number of churches in the community;
  - Number of Catholic churches in the community;
  - Number of mainline Protestant churches in the community;

  - Number of Breakaway or Traditional churches in the community.
- Number of churches in the community reported to have held meetings on HIV and AIDS:
  - Number of Catholic churches holding meetings;
  - Number of mainline Protestant churches holding meetings;
  - Number of Breakaway or Traditional churches holding meetings.

Table 19: Community Profiles

Mean number (or score) in each community	Range	Control	Target
Churches	1-9	3.55	3.40
Churches with HIV meetings	0-10	2.22	2.22
Catholic churches with HIV meetings	0-1	.63	.51
Protestant churches with HIV meetings	0-5	1.15	1.30
Breakaway/Traditional churches with HIV meetings	0-4	.45	.41

For school-level analysis, measures of programme implementation and general response to the programme were drawn from the TSC and PSC. Composite measures were created based on questions about the presence of activities encouraged in the PSABH training. These measures served two purposes. First, they provided a way to assess the degree to which various programme components were actually implemented. Second, recognizing that variations in participation in PSABH training and the transfer of teachers could affect the presence of PSABH promoted activities and that CfBT was not the only organization working to bring HIV/AIDS programming into schools, these measures provided a way to assess the degree to which HIV/AIDS programming was present in schools.

Measures of Programme implementation/response

Measure	Description
PSC & TSC	
Implementation	Two separate scales for teachers and pupils. Summation of all questions on the TSC and PSC about the presence and (where applicable) the frequency of use of components of PSABH . Items included: presence of question box, information corner, school health club, various books, teaching about HIV/AIDS in specific subjects. (0=no implementation, 10=all items implemented).
Teacher Attitudes	Summation of teacher responses to questions tapping their attitudes toward teaching about HIV and AIDS (e.g., teaching young people that condoms give protection only encourages sexual activity, the more information we give young people the better). (0=least favourable attitudes, 10=most favourable attitudes)
Barriers	Teachers' perceptions of practical barriers to teaching about HIV and AIDS (e.g. insufficient time, resources or training, parent objection, pupil shyness). (0= presence of all barriers to the maximum degree possible, 10= absence of any barriers)
Abstinence lessons	Two separate scales for whether teachers reported teaching and pupils reported receiving lessons on how to resist playing sex, controlling bodily urges, resisting pressure from friends, girl/boyfriend, an older

	partner (0=no such lessons, 10=all lessons)

These measures provided indicators of the level or degree of programme implementation and teacher and pupil response.

Knowledge

The chart below summarizes the number and content of knowledge measures developed from responses to questions in PSC and TSC surveys. Several topical subsets of the total knowledge measure were created in order to tap different types of knowledge. Consequently, some questions were used in several of the measures of knowledge. For example, condom questions were included in the total knowledge scale, the condoms for prevention scale and the prevention of transmission scale.

Table 20: Areas of Knowledge and Number of Questions for Each

	Pupil Self-Completion		**Teacher Self-Completion**	
Area of Knowledge	**Wave 1**	**Wave 3**	**Wave 1**	**Wave 3**
Total Knowledge (all items)	22	22	13	12
STD-HIV Relationship	4	4	-	-
Knowledge re Sexual Transmission	-	4	-	-
Condoms for Prevention	-	4	-	-

Attitude Measures

Measure	**Description**
Commitment to abstinence	Summation of items that inquired about intentions or actions that pupils had taken in order to avoid playing sex (e.g. refused, avoided going somewhere, could tell boy/girlfriend to wait until marriage, could have a boy/girlfriend for a long time and not play sex) (0=no intentions or actions to insure abstinence, 10=endorsed all intentions and have engaged in all actions to insure abstinence)

Measures of Communication

Measure	**Description**
Talk to female relatives	Summation of all items indicating if pupils prefer or have talked to female relatives about HIV/AIDS. (0= neither preferred nor have talked to any female relatives, 10= preferred and have talked to all possible female relatives)
Talk to male relatives	Summation of all items indicating if pupils prefer or have talked to male relatives about HIV/AIDS. (0= neither preferred nor have talked to any male relatives, 10= preferred and have talked to all possible male relatives)
Talk to other	Summation of all items indicating if pupils prefer or have talked to community members who are not relatives about HIV/AIDS. (0= neither preferred nor have talked to any community members, 10= preferred and have talked to all possible community members)

Measures of Actions Taken

Measure	Description
Pursue information	Summation of all items about seeking out information about HIV/AIDS. (0=not pursued any information, 10=indicated pursuit of each kind of information)
Commitment to pursuing information	Summation of all items about seeking out information about HIV/AIDS plus whether asked question, talked to teacher or parents, read about HIV or talked about HIV in Health club. (0=not active in pursuing information, 10=actively pursuing information)
Single Item Measures:	
Help friend	Whether pupils reported having helped a friend avoid playing sex (coded 0=no, 1=yes)
Refuse to play sex	Whether pupils could have played sex but refused in the past one (wave 1) or three (wave 3) months (0 = not refused; 1 = refused).
Not go	Whether, in the past 3 months, pupils had chosen not to go somewhere specifically because they wanted to avoid being pushed or forced into playing sex. (0 = not avoided; 1 = avoided)
Sexual debut	For pupils who were virgins as of January 2002, whether they had initiated playing sex by the time of the survey, i.e., during the year when PSABH was being implemented in the schools (0=no, 1=yes).
Recent sex	For pupils who were not virgins, whether they had engaged in sexual activity in the previous 3 months, i.e., during the programme (0=no, 1=yes)
Sexual Safety	Whether pupils choose to abstain or used a condom during last intercourse (0=no, 1=yes)
Condom use	Whether condoms were used at last intercourse (0=no, 1=yes)

Change Scores

For school-level data, change scores were calculated that comprised the difference between the measure at wave 1 compared to wave 3. These scores provided an indicator of the amount of change within the school from pre-programme data collection (wave 1) to data collection 18 months later (wave 3).

Data Analysis

Data Checking

Data were checked for reliability and validity prior to conducting data analysis. Data checking included the following steps.

- Responses to all questions were tested for construct validity by comparing responses on logical sequences or combinations of questions.
- Scales were created and tested using principal components factor analysis and analysis of internal validity using Cronbach's alpha. Construct validity was tested using correlations among similar indicators or indicators with well-established relationships.

- Frequency distributions were examined to assess the suitability of variables for use in t-tests, analysis of variance, and regression analyses.

Testing for Significant Gains in Target Schools

Analysis to determine whether PSABH produced significant changes in between variations consisted of examining the size and direction of change for each variable of interest and then using analysis of variance tests to determine whether the size of the change in one variation was significantly greater than in control schools or other variation schools. Composite measures for wave 3 data and change scores were used in these analyses.

For changes in pupils' scores, controls were imposed for:

- Gender of pupils;
- Whether pupils were virgins pre-programme or sexually experienced; and,
- Standard of pupil.

These established whether PSABH had differential effects for different groups of pupils.

Factors Influencing Uptake, Vulnerability and Response to HIV/AIDS

Hierarchical multivariate regression analyses were used to develop a profile of the uptake of PSABH in schools, factors that influenced greater or lesser programme implementation, and the influence of school uptake on knowledge, attitudes and behaviours. These analyses used aggregated measures from the PSC and TSC together with measures from the SRS, and CRS data combined in a school-level database and provided analyses of schools rather than individuals.

Procedures for Hierarchical analyses

Variables were clustered into blocks based on the concepts they represented, the time-ordering of their influence (e.g., programme implementation precedes outcomes), and analysis goals (e.g., a primary goal was to establish whether there were differences between target and control schools). Blocks of variables were then entered sequentially into regression analyses to establish whether and how various blocks influenced programme uptake and outcomes. The sequence of steps below provide an overview of each set of regression analyses and the blocks of variables that were entered. The series was conducted for both the wave 3 scores and the change scores (where these were available) to establish which blocks and individual variables influenced both the results at wave 3 and the amount of change between waves 1 and 3.

In order to explain (dependent variable)	**Blocks of variables entered**
Teacher attitudes and teaching barriers	1. Variations 2. SES 3. School & community characteristics
Teacher implementation scores	1. Variations 2. Teacher attitudes & barriers 3. SES 4. School & community

	characteristics
Pupil implementation scores	1. Variations 2. Teacher implementation 3. Teacher attitudes & barriers 4. SES 5. Scholl & Community characteristics
Teacher scores on teaching how to abstain	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. SES 5. School & community characteristics
Pupil scores on teaching how to abstain	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation 4. Teachers scores on teaching how to abstain 5. SES 6. School & community characteristics
HIV/AIDS Knowledge: Teacher total knowledge scores	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. SES 6. School & community characteristics
HIV/AIDS Knowledge: Pupil total knowledge scores	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher knowledge 6. SES 7. School & community characteristics
STD Knowledge: Pupil scores	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher knowledge 6. SES 7. School & community

	characteristics
Condom Knowledge: Pupil scores	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher knowledge 6. SES 7. School & community characteristics
Sex Knowledge: Pupil scores	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher knowledge 6. SES 7. School & community characteristics
Pupil Communication and Information: With female relatives, with male relatives, with other community members, pursuing information	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. SES 7. School & community characteristics
Pupil Commitment to pursuing information: pursuing information (as above) and whether asked question, talked to teacher or parents, read about HIV or talked about HIV in Health club	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. SES 7. School & community characteristics
Pupil Commitment to not playing sex	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. SES

	8. School & community characteristics
Pupil Sexual Debut during programme	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Pupil recent sexual activity	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Pupil helped a friend avoid a situation that might lead to sex	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Pupil could have played sex but refused	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain

	5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Pupil chose not to go somewhere in the last 3 months to avoid playing sex	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Pupil sexual safety: based on whether the pupil chooses to abstain or used a condom in the last sexual encounter	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. SES 9. School & community characteristics
Condom use by boys and girls	1. Variations 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; 4. Teacher & pupil teaching how to abstain 5. Teacher & pupil knowledge 6. Pupil commitment to pursuing information 7. Pupil commitment to not playing sex 8. Pupil sexual debut during programme, recent sexual activity,

	helped a friend avoid a situation, chosen not to go somewhere 9. SES 10. School & community characteristics

The R^2 statistic for each block of variables, the standardized and unstandardized coefficients for each individual variable, and tests for multicollinearity were examined to establish the appropriate interpretation of regression results.

Analysis of Textual Data

There were five steps in the analysis process:

(1) All textual data was read and coded based on the original interview/focus group questions.
(2) Sections from all interviews dealing with the same topics were read to develop an understanding of the topics from the perspective of different community members.
(3) Summaries based on these topics were prepared.
(4) As cross-cutting themes began to emerge from the data, text was re-read and re-coded into thematic groupings and the themes and connections between them were elaborated.

Once the qualitative data had been 'mined' in this way, it was compared to results from teacher, pupil, school responsiveness and community responsiveness surveys.

Triangulation

Two modes of triangulation of data were used:

(1) Results of analyses of each form of data collection were used to inform the next form of data collection.
Data collected in wave 1 surveys were used to create guides for in-depth interview and focus group discussions. Results from analyses of the in-depth material were used to create questions for the SRS and CRS. Results from analyses of the in-depth materials were used together with results from the SRS and CRS, to revise and add questions to the wave 2 PSC and TSC. Results from this analysis, a re-administered SRS and CRS in Nyanza and the wave 1 and SRS and CRS analysis in Rift were then used to update the surveys and interview guides for wave 3 analysis. In this way, each form of data informed the next wave of data collection and further tested conclusions drawn based on earlier waves of data collection.

(2) All forms of data were combined in developing the analysis and conclusions in this report.

APPENDIX B: TABLES

This appendix contains tables that support results provided in the main body of the report. The letter used to identify each table (i.e. Table A) is identical to its corresponding figure in the body of the report (i.e. Figure A). Unless otherwise indicated in the table footnotes, results marked as significantly different are those where the wave 3-1 increase or decrease is significantly different for target compared to control schools. Positive results in the Wave 3-1 columns indicate an increase from wave 1 to 3; negative results indicate a decrease. The size of the values in the Wave 3-1 columns show the size of the change from wave 1 to wave 3.

Table A: Nyanza - Percentage and Change in Percentage in Teachers Responding

	Wave 3		Wave 3-1 increase (- decrease)	
This term, HIV/AIDS has been addressed in	**Control**	**Target**	**Control**	**Target**
Assemblies	88%	92%	73%*	81%*
Staff meetings	73%	83%	48%*	62%*
Classroom Work Displays	40%	60%	14%*	45%*
School Work Displays	29%	52%	4%*	35%*
Debates	41%	67%	15%*	38%*
Drama/Music Festivals	30%	46%	-4%*	23%*
Class Competitions	22%	31%	5%*	19%*

*$p \leq .01$

Table B: Rift Valley - Percentage and Change in Percentage in Teachers Responding

	Wave 3		Wave 3-1 increase (- decrease)	
This term, HIV/AIDS has been addressed in	**Control**	**Target**	**Control**	**Target**
Assemblies	68%	84%	4%	4%
Staff meetings	73%	68%	12%*	-10%*
Classroom Work Displays	41%	71%	8%*	26%*
School Work Displays	23%	53%	4%	13%*
Debates	14%	42%	-30%*	-5%
Drama/Music Festivals	18%	53%	-15%*	1%
Class Competitions	18%	32%	1%	4%

Table C: Nyanza - For Teachers Who Have Taught Each of the Following Subjects, Percentage and Change in Percentage Addressing HIV/AIDS in:

	Wave 3		Wave 3-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Religious Education	88%	91%	1%	8%*
Physical Education	52%	60%	3%	7%*
Music	65%	87%	14%*	23%*
Kiswahili	66%	60%	22%*	7%*
Home Science	91%	93%	12%	11%*
HIV/AIDS Lessons	87%	86%	-1%	-7%
GHC	76%	80%	13%*	11%*
English	67%	85%	13%*	28%*

*$p \leq .01$

Table D: Nyanza - Percentage and Change in Percentage of Teachers Reporting Each of the Following:

	Wave 3		Wave 3-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Scheme of Work for HIV/AIDS	40%	71%	7%	33%*
Infusion and Integration	64%	83%	30%*	51%*
HIV/AIDS is in Master Timetable	86%	89%	14%*	8%
Sexuality is included in the School Development Plan	33%	55%	-20%*	19%*

*p ≤ .01

Table E: Rift Valley - Percentage and Change in Percentage of Teachers Reporting Each of the Following:

	Wave 3		Wave 3-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Scheme of Work for HIV/AIDS	54%	76%	18%	11%
Infusion and Integration	50%	82%	6%	30%*
HIV/AIDS is in Master Timetable	73%	92%	4%	7%
Sexuality is included in the School Development Plan	23%	42%	1%	20%

*p ≤ .01

Table F: Mean Scores for Implementation of PSABH in Schools

Indicator	**Nyanza**					**Rift Valley**		
	Control	**Church Leader**	**Target**	**Health Worker**	**Additional Teacher**	**Control**	**Teacher Target**	**Peer Supporter Target**
Number of schools	**54**	**17**	**51**	**22**	**10**	**12**	**29**	**19**
W3: Implementation of PSABH in school (teachers)	3.11	4.02	5.04	5.58	5.39	3.01	4.24	4.17
W3: Implementation of PSABH in schools (pupils)	3.83	4.50	4.95	5.06	5.49	3.01	4.09	4.38

Notes: Order of variations reflects those which are typically least to most different (left to right) from control schools. Shaded cells represent variations that are significantly different from control cells at p ≤ .05.

Table G: Mean Scores for Change in Implementation of PSABH in Schools

Indicator	**Nyanza**					**Rift Valley**		
	Control	**Church Leader**	**Target**	**Health Worker**	**Additional Teacher**	**Control**	**Teacher Target**	**Peer Supporter Target**
Number of schools	**54**	**17**	**51**	**22**	**10**	**12**	**29**	**19**
W1/W3 differences: Implementation of PSABH in schools (teachers)	1.22	1.85	3.34	3.49	3.36	.49	1.84	.96
W1/W3 differences: Implementation of PSABH in schools (pupils)	0.96	1.57	2.12	2.27	2.80	-.09	1.26	.82

Notes: Order of variations reflects those which are typically least to most different (left to right) from control schools. Shaded cells represent variations that are significantly different from control cells at p ≤ .05.

Table H: Nyanza - Percentage of Teachers Responding (Wave 2 and 3 only)

	Wave 3		Wave 3-2 increase (- decrease)	
I have talked to pupils about	**Control**	**Target**	**Control**	**Target**
How to resist playing sex	86%	89%	7%*	1%
How to control urges	72%	81%	14%*	5%*
How to abstain even when friends push you	86%	88%	8%*	2%
How to keep from playing sex even when BF/GF wants to	84%	81%	30%*	11%*
How to avoid playing sex with older men/women	73%	81%	16%*	20%*

*$p \leq .01$

Table I: Rift Valley- Percentage of Teachers Responding (Wave 3 only)

	Wave 3 only	
I have talked to pupils about	**Control**	**Target**
How to resist playing sex	91%	84%
How to control urges	64%	63%
How to abstain even when friends push you	86%	90%
How to keep from playing sex even when BF/GF wants to	77%	79%
How to avoid playing sex with older men/women	68%	66%

Table J: Nyanza - Percentage of Pupils Responding (Wave 2 and 3 only)

	Wave 3		Wave 3-2 increase (- decrease)	
The following have been talked about in school	**Control**	**Target**	**Control**	**Target**
How to resist playing sex	63%	66%	3%	7%
How to control urges	50%	54%	2%	5%
How to abstain even when friends push you	51%	53%	5%	9%
How to keep from playing sex even when BF/GF wants to	55%	57%	6%	7%
How to avoid playing sex with older men/women	48%	52%	4%	9%

Table K: Rift Valley - Percentage of Pupils Responding (Wave 3 only)

	Wave 3 only	
The following have been talked about in school	**Control**	**Target**
How to resist playing sex	56%	71%
How to control urges	48%	59%
How to abstain even when friends push you	42%	61%
How to keep from playing sex even when BF/GF wants to	47%	66%
How to avoid playing sex with older men/women	41%	60%

Table L: Level of Pursuing Information for Pupils in Nyanza and Rift Valley

Indicator	Nyanza					Rift Valley		
	Control	Church Leader	Basic Target	Additional Teacher	Health Worker	Control	Teacher Target	Peer Supporter Target
Number of schools	**54**	**17**	**51**	**22**	**10**	**12**	**29**	**19**
W3: Level of pursuing information	5.02	6.34	6.30	7.37	6.57	4.40	5.80	6.36
W1/W3 differences: Level of pursuing information	0.62	2.12	2.04	2.64	2.43	.56	1.77	1.21

Notes: Shaded cells represent variations that are significantly different from control cells at $p \leq .05$.

Table M: Nyanza - Percentage and Change in Percentage of Teachers and Pupils With Correct Answers

	Pupils				Teachers			
	Wave 3		Wave 3-1 increase (- decrease)		Wave 3		Wave 3-1 increase (- decrease)	
	Control	Target	Control	Target	Control	Target	Control	Target
You can prevent HIV by avoiding having sex	66%	69%	-5%*	-5%*	81%	92%	10%*	23%*

*$p \leq .01$

Table N: Rift Valley - Percentage and Change in Percentage of Teachers and Pupils With Correct Answers

	Pupils				Teachers			
	Wave 3		Wave 3-1 increase (- decrease)		Wave 3		Wave 3-1 increase (- decrease)	
	Control	Target	Control	Target	Control	Target	Control	Target
You can prevent HIV by avoiding having sex	56%	77%	-9%	-7%	91%	82%	16%	12%

*$p \leq .01$

Table O: Nyanza and Rift Valley - Percentage of Pupils Who Initiated Sexual Activity in the Year Prior to Data Collection

	Rift				Nyanza					
	Wave 1		Wave 3		Wave 1		Wave 2		Wave 3	
	Control	Target	Control	Target	Control	Target	Control	Target	Control	Target
Girls	11%	5%	8%	5%	12%	16%	4%	7%	9%	9%
Boys	25%	14%	16%	12%	15%	19%	10%	10%	27%	21%

Table P: Nyanza and Rift Valley - Percent Change in Pupils Who Initiated Sexual Activity in the Year Prior to Data Collection

	Rift		Nyanza	
	Wave 3-1		Wave 3-1	
	Control	Target	Control	Target
Girls	-3%	0%	-3%	-7%
Boys	-9%	-2%	12%	2%

Table Q: Nyanza - Percentage and Changes in Percentage of Teachers With Correct Answers

	Wave 3		Wave 3-1 increase (- decrease)	
Other Knowledge/Belief Questions	**Control**	**Target**	**Control**	**Target**
A condom can slip off and remain inside a girl	26%	28%	-	-
You can prevent HIV by:				
Using a condom correctly when playing sex	76%	84%	-2%	-5%

Table R: Rift Valley - Percentage and Changes in Percentage of Teachers With Correct Answers

	Wave 3		Wave 3-1 increase (- decrease)	
Other Knowledge/Belief Questions	**Control**	**Target**	**Control**	**Target**
A condom can slip off and remain inside a girl	32%	40%	-	-
You can prevent HIV by:				
Using a condom correctly when playing sex	91%	94%	10%	25%

Table S: Nyanza- Percentage and Changes in Percentage of Pupils With Correct Answers

	Wave 3		Wave 3-1 increase (- decrease)	
You can prevent HIV by:	**Control**	**Target**	**Control**	**Target**
Using a condom correctly when playing sex	55%	56%	-9%*	-7%*
Other Knowledge/Belief Questions				
A condom can slip off and remain inside a girl	19%	19%	-4%	-6%
Using a condom reduces the likelihood of becoming infected	34%	37%	2%	6%

*$p \leq .01$

Table T: Rift Valley - Percentage and Changes in Percentage of Pupils With Correct Answers

	Wave 3		Wave 3-1 increase (- decrease)	
You can prevent HIV by:	**Control**	**Target**	**Control**	**Target**
Using a condom correctly when playing sex	45%	56%	-20%*	-6%
Other Knowledge/Belief Questions				
A condom can slip off and remain inside a girl	26%	22%	-	-
Using a condom reduces the likelihood of becoming infected	39%	35%	-13%*	-13%*

*$p \leq .01$

Table U: Nyanza - Percentage and Change in Percentage of Teachers Who Strongly Agree

	Wave 3		Wave 3-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Teaching young people that condoms give protection only encourages them to have sex	68%	67%	6%	0%

Table V: Rift Valley - Percentage and Change in Percentage of Teachers Who Strongly Agree

	Wave 3		Wave 3-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Teaching young people that condoms give protection only encourages them to have sex	50%	55%	-33%*	-10%

*p ≤ .01

Table W: Nyanza - Percentage and Change in Percentage of Pupils

	Wave 3		Wave 3-1 increase (- decrease)	
Agree that	**Control**	**Target**	**Control**	**Target**
If you have sex you should use a condom to protect yourself	47%	53%	-3%*	0%
	Wave 3		**Wave 3-2 increase (- decrease)**	
Answered 'Definitely yes or yes'	**Control**	**Target**	**Control**	**Target**
I can tell my BF/GF about using a condom	55%	59%	7%*	8%*
If I must play sex I can make sure we use a condom	65%	68%	7%*	9%*

*p ≤ .01

Table X: Rift Valley - Percentage and Change in Percentage of Pupils

	Wave 3		Wave 3-1 increase (- decrease)	
Agree that	**Control**	**Target**	**Control**	**Target**
If you have sex you should use a condom to protect yourself	42%	49%	-15%*	-3%
Answered 'Definitely yes or yes'				
I can tell my BF/GF about using a condom	56%	53%	-	-
If I must play sex I can make sure we use a condom	57%	60%	-	-

*p ≤ .01

Table Y: Nyanza - Percentage and Change in Percentage of Pupils Who Are Sexually Active Who:

	Wave 3		Wave 3-1 increase (- decrease)	
Boys	**Control**	**Target**	**Control**	**Target**
Used a condom last time you played sex	29%	28%	-1%	1%
Girls				
A condom was used the last time I played sex	31%	30%	-7%	6%

Table Z: Rift Valley - Percentage and Change in Percentage of Pupils Who Are Sexually Active Who:

	Wave 3		Wave 3-1 increase (- decrease)	
Boys	**Control**	**Target**	**Control**	**Target**
Used a condom last time you played sex	26%	20%	2%	-3%
Girls				
A condom was used the last time I played sex	29%	28%	2%	14%