MINISTRY OF NATIONAL EDUCATION AND TECHNICAL EDUCATION

REPUBLIC OF COTE D'IVOIRE
Union-Discipline-Labour

EVALUATION OF THE LIFE SKILLS PROGRAMME FOR STI AND HIV/AIDS PREVENTION IN SCHOOLS IN COTE D'IVOIRE

STUDY REPORT

DECEMBER 2015

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With the participation of:

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and the financial support of PEPFAR

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ABBREVIATIONS AND ACRONYMS

APFC	Department of Pedagogy and Continuous Training
CAFOP	Pedagogical Animation and Training Center
CDC	Center for Diseases Control and Prevention
CNER-CI	National Ethics Committee for Research in Côte d'Ivoire
DDENET	Departmental Directorate of National Education and Technical Education
DMOSS	Directorate of School Associations and Social Work
DSPS	Directorate of Strategies, Planning and Statistics
DPFC	Directorate of Pedagogy and Continuous Training
DPPEIS	Directorate of Prospective, Planning, Evaluation and Health Information
DRENET	Regional Directorate of National Education and Technical Education
DVS	Office of School Life
DHS-CI	Côte d'Ivoire Demographic and Health Survey
INS	National Institute of Statistics
STI	Sexually Transmitted Infection
MEMPD	State Ministry of Planning and Development
MEN/PEPFAR	Ministry of National Education /President's Emergency Plan For AIDS Relief
MENET	Ministry of National Education and Technical Education
MSLS	Ministry of Health and the Fight against Aids
MPJSL	Ministry of Youth, Sports and Leisure
PEPFAR	US President's Emergency Plan For AIDS Relief
PNSSU	National School and University Health Programme
PLHIV	People Living with HIV
PHSC	Protection of Human Subject Committee
SSSU	School and University Health Service
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nation Fund for Population Activities
GBV	Gender-Based Violence
HIV	Human Immunodeficiency Virus

ACKNOWLEDGEMENTS

The successful evaluation of the Life Skills Programme for STI / HIV / AIDS prevention in schools in Côte d'Ivoire conducted in 2015 was the result of an excellent technical collaboration between the departments of the Ministry of National Education (MEN/PEPFAR, DPFC, DMOSS, DPES), FHI 360 and CDC/PEPFAR.

The Ministry of National Education expresses its appreciation to all institutions and individuals who contributed to this work, especially:

- National Institute of Statistics (INS)
- Directorate of Prospective, Planning, Evaluation and Health Information (DPPEIS),
- National School and University Health Programme (PNSSU),
- FHI 360
- CDC/PEPFAR
- All teams of trainers, supervisors, facilitators and interviewers

SUMMARY OF THE STUDY

With a HIV prevalence of 3.7%, Côte d'Ivoire is one of the most affected countries by the HIV epidemics in West Africa (DHS-CI 2012). A study conducted in 2013 by UNFPA and the Ministry of Education revealed that 22% of pregnancies were recorded in primary schools. Teenage pregnancy is often a factor reducing girls' enrollment in Côte d'Ivoire.

The Ivorian Government is committed in this respect to improve students' knowledge about HIV/AIDS and reproductive health. Thus, the Ministry of Education has been implementing for a decade, a prevention program based on Life Skills, and funded by CDC/PEPFAR. At the end of these years of implementation, this program needs to be evaluated.

The aim of this study is to demonstrate the impact of the Life skills program for HIV/AIDS, STI, gender-based violence, and school-related pregnancies control in Côte d'Ivoire.

This is a quantitative, cross-sectional study with a quasi-experimental model that compares the results of three sampling strata based on different levels of the program implementation. The purpose of the comparison of these three strata is to demonstrate a dose-response effect. The study was conducted in the following six (6) purposively selected Regional Directorate of National Education and Technical Education (DRENET): Adzopé, Daloa, Bouaflé, Korhogo, Abidjan-2, and Abidjan-3.

The study targeted students and school staff selected from public secondary schools. A total of 3,825 students and 1,111 school staff members participated in this study. Schools were selected in proportion to their size (number of students).

The study showed that almost a quarter of the students aged 15 – 24 years had sex in the past three months. Among these sexually active students, almost all boys and around half of girls reported that they had at least two sexual partners in the last three months. Condom use remained insufficient with only 60% of students who reported having used a condom at last sexual intercourse. Among students aged 15-24 years, 8% of the girls had already been pregnant. In the school year preceding the survey, almost one quarter of the students aged 15-24 years had experienced unwanted touching by a student, 2.7% had been sexually abused by penetration by a student, and 1.5% had been sexually abused by penetration by a school staff member. Both boys and girls were vulnerable to sexual abuse. Slightly less than half of the students, both girls and boys, reported normative attitudes towards women and only half of the students would agree to be friends with a person living with HIV. However, students had relatively good knowledge about HIV and its transmission modes or prevention.

The study highlighted a dose-response effect between the intensity of the Life skills Program implementation and the reduction of multiple sexual partnerships. A similar trend suggested that the program helped reduce humiliations inflicted on students by school staff. A reduction of pregnancies was recorded in schools when the Life skills program implemented in classroom was associated with extracurricular activities.

In spite of a good knowledge about the modes of HIV transmission, school staff members continued to engage in risky behaviors, with nearly a quarter of the men stating that they had at least two sexual partners in the last three months, and 9% had unprotected sex with a casual partner in the same period. Only few school staff members reported discriminatory attitudes towards people living with HIV or negative attitudes with respect to women's rights.

Almost 2% of both school staff and students reported having sex with a person of the same sex in the last three months.

The study shows that students remain vulnerable to HIV. Strengthening the synergy between curricular activities (Life skills) and extracurricular activities (health clubs) will be needed in order to increase the

program impact. School-based HIV/AIDS control activities developed by the MEN/PEPFAR project should continue through the integration of the “Zero Pregnancy” Project into the Life Skills program.

INTRODUCTION

About thirty years ago, when the first cases were reported, AIDS became more than a public health issue, but rather a development problem. HIV pandemic has caused more than 18 million deaths in the world.

Côte d'Ivoire is one of the most affected West African countries by the HIV epidemics, with a prevalence of 3.7% (DHS-2011-2012), which has since declined according to the latest UNAIDS estimates (2014), i.e. 2.7%.

The Education sector has not been spared by the epidemic. The adverse effects on the Ministry of Education (MEN) staff include unavailability over six months on average, family disintegration and break-up, increasing number of orphans, and impoverishment. Among students, these effects are characterized by repeated absences from school, declining academic performance, increase in the number of orphans and other vulnerable children due HIV.

To face this problem, the US government through PEPFAR decided to support the MEN in organizing a school-based response as part of a multi-sectoral approach. This support was reflected in the signing of a five-year cooperative agreement (2004-2008) between the MEN and CDC/PEPFAR, through the MEN/PEPFAR Project. The project aimed at assisting the MEN in the implementation of a national prevention, care and treatment program for students and school staff. The agreement was renewed in 2008 for another five-year period (2008-2013) to improve HIV prevention and care among students, teachers and other MEN staff throughout the Ivorian territory.

This report is about the evaluation of the Life Skills(LS) Program which is a component of this cooperative agreement. The report focuses on the objectives, methodology, results and recommendations in order to contribute to the sustainability of school-based STI and HIV/AIDS prevention interventions.

BACKGROUND AND JUSTIFICATION

In 2012, the number of people newly infected with HIV was estimated at 2.7 million worldwide and 1 million in sub-Saharan Africa [1]. In the same year, more than half of new infections occurred among people aged less than 25 years old. Among people aged 15-25 years, women are the most affected. Young people who have early sexual debut are at high risk of HIV infection as they often have multiple sexual partners and frequently do not use condoms on a regular basis. In comparison with any other age group, young people are also more likely to experience drug use, including injecting drugs which further increase the risk of HIV infection. Thus, several youth-oriented prevention strategies have been implemented in developed and developing countries, through mass media and other means of communication to bring about change in their behavior. Among these strategies, school-based interventions for HIV prevention were considered as a necessary step in the fight against HIV [2].

An observational study conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in more than 15 countries in sub-Saharan Africa between 2007 and 2010, revealed a gap between students and teachers' knowledge on HIV transmission modes. This study concluded that teachers lacked motivation and/or appropriate teaching methods for conducting HIV-related sex education [3].

With a HIV prevalence estimated at 3.7% among the general population, according to the DHS-2012, Côte d'Ivoire is one of the most affected countries by HIV in West Africa [4]. The same study estimated at 0.8% the prevalence among girls under 20 years of age.

A study carried out by the United Nations Fund for Population Activities (UNFPA) and the Ministry of National Education and Technical Education (MENET) in 2013 showed that 22% of school-related pregnancies occurred in primary cycle (including a significant proportion of children who repeated at least a school year) [5]. Teenage pregnancies are often a cause of school leaving among girls in Côte d'Ivoire. Indeed, 20% of girls had already sexual intercourse at 15 years, and 37% of women gave birth to a baby before 20 years [6]. Given the high incidence of teenage pregnancy reported by schools, the Government of Côte d'Ivoire is committed to consolidate information on HIV and reproductive health among students. A KAP survey carried out in 2010 by the MENET with the financial support of the Multi-sectoral HIV/AIDS Emergency Project in Côte d'Ivoire (PUMLS) revealed that 48% of teachers (43% of men and 4% of women) said that they had sex with a student [7].

In this context the Government of Côte d'Ivoire, with the technical and financial support of PEPFAR, included in its priorities, HIV-related education in schools. To this end, a first 5-year Cooperation Agreement (2004-2008) was signed and then renewed by a second Agreement (2008-2013) between MEN and CDC/PEPFAR, through the implementation of the MEN/PEPFAR Project. This agreement targeted classes from the primary school fourth and fifth grades to twelfth grade.

This project focused on four (4) programs:

1. LS in classroom to improve knowledge about STIs and HIV/AIDS, strengthen attitudes and practices related to abstinence and fidelity; gender promotion,
2. Promotion of a correct and consistent use of condoms, reduction of partners, promotion of HIV testing and messages discouraging intergenerational sex among school staff;
3. Improvement of quality and access to prevention, care and support for OVC students.
4. Improvement of quality and access to prevention, care and support for PLHIV school staff.

This project helped implement a LS program from the primary cycle to the secondary cycle, with the aim of improving prevention and care for students and school staff. This LS approach is based on three strategies: 1) communication strategies, 2) decision-making strategies, 3) strategies to cope with pressure (peers, third parties ...).

The themes covered by the LS program are the following: 1) a model of behavioral change through which young people can solve a problem themselves, 2) misconceptions about HIV, 3) HIV transmission modes, 4) the immune system and HIV, 5) women and HIV, 6) living positively with HIV, 7) HIV treatment, 8) HIV prevention, and 9) family values and family help to protect themselves against HIV.

The MENET strategy is based on the teaching of LS in all disciplines. To this end, the MENET organized training sessions for teachers in each theme. Cascade training sessions on sites should be carried out by the Department of Pedagogy and Continuous Training, with pools of trained teachers. In addition, some schools have implemented school life activities, including peer education, through student-run health clubs and school health committees managed by school staff. Indeed, since 2005 until now, health clubs, school health committees and gender-based violence monitoring committees have been set up in some schools. These committees and clubs have carried out outreach activities through peer education. Health clubs are made up exclusively of students who lead group talks and interpersonal communications for their peers. School health committees are led by school staff, through peer education strategies, to promote fidelity and condom use among their colleagues. Gender-Based Violence (GBVs) monitoring Committees, which are made up of students, are responsible for organizing awareness-raising sessions, denouncing and referring violence cases in schools in collaboration with social centers.

Systematic reviews of the evaluations of school-based HIV-risk reduction programs around the world show mixed results in terms of behavioral change [7-8]. Based on these reviews, the majority of school-based interventions helped successfully improve knowledge and attitudes, to a lesser extent. However, evidence that interventions change sexual behavior remain limited [8-9].

In addition, systematic reviews of the effects of education programs for adults in sub-Saharan Africa did not show any change in sexual behavior [10-11].

A school-based quasi-experimental study in Nigeria compared the relative effectiveness of programs provided only by teachers, peers and a combination of two approaches based on the knowledge about reproductive health, attitudes, self-determination and sexual practices among secondary school students. The study concluded that the combination of intervention strategies has greater potential for improving reproductive health among students.

After a decade of project implementation, it was necessary to evaluate the impact of the LS program on populations in schools. This study was conducted with the technical support of FHI 360 and the financial support of CDC/PEPFAR.

DESCRIPTION OF THE LIFE SKILLS PROGRAMME

During the 10 years of the MEN/PEPFAR project implementation, the activities of the LS program targeted students and teachers and were progressively extended in 26 Regional Directorates of National Education and Technical Education (DRENET) out of the 36 directorates located in Côte d'Ivoire.

The LS program implementation was based on two strategies:

- The curricular approach aimed at strengthening the skills of primary and secondary school students through the curriculum integrated into LS
- The extracurricular approach involving all stakeholders to strengthen the coordination and monitoring of activities

The aim of this program is to promote primary and secondary abstinence among students and school staff, promote fidelity, reduction of the number of sexual partners as well as a correct and consistent use of condoms.

Sustainability of interventions

A sustainability plan was developed to continue HIV interventions in schools. The activities of this plan were distributed according to programmatic themes by empowering central directorates, in relation to their role and responsibilities, to carry out these activities.

Thus, for the programmatic theme "Youth and General Population", the DPFC will ensure the continuity of training, monitoring of the implementation of curricular activities and pedagogical supervision of teachers.

Extracurricular activities will be carried out by the Directorate of School Associations and Social Work (DMOSS), with the assistance of the pools of national trainers specialized in Communication for Behavioral Change (CCC), Men as Partners and Life Skills, as well as DRENET Regional Coordinators and peer educators. The Directorate shall continue the work of monitoring committees, school health committees and health clubs, and monitor activities, coaching and supervision of implementing actors, with a strong coordination team.

PURPOSE AND OBJECTIVES

I. PURPOSE

Measure knowledge, attitudes and behaviors related to the prevention of STIs, HIV and pregnancy in schools, based on the implementation level of the LS program.

II. OBJECTIVES

1. Compare the self-determination, knowledge and attitudes related to HIV, discrimination against PLHIVs, gender-based violence among students according to their exposure to the LS program in schools
2. Compare sexual behaviors, the use of STI/HIV control services and the use of reproductive health services among students according to their exposure to the LS program in schools
3. Compare the self-determination, HIV-related knowledge and attitudes, discrimination against PLHIVs, gender-based violence among school staff according to their exposure to the LS program in schools
4. Compare sexual behaviors and the use of STI, HIV control and reproductive health services among school staff according to their exposure to the LS program in schools

METHODOLOGY

I. STUDY DESIGN

The survey is a cross-sectional quantitative study using a quasi-experimental design that compares three different levels of implementation of the LS program among student. Participants were selected from three independent sampling areas, corresponding to the three strata of the study:

Stratum 1: Stratum without LS program consisting of schools that have not implemented the LS program;

Stratum 2: Intermediate stratum consisting of schools that have implemented only the LS program;

Stratum 3: Complete stratum consisting of schools that have implemented the LS program and school life activities.

The comparison of the three strata aims at highlighting a dose-response effect.

II. STUDY FRAMEWORK

In Côte d'Ivoire, public high schools provide education from 6th grade to 12th grade and are all located in urban areas. The LS program has been implemented in 26 Regional Directorates of National Education and Technical Education (DRENET) in Côte d'Ivoire. The LS program coverage rate is unequal according to DRENETs. In total, about 50% of public high schools located in the 26 DRENETs are covered by the LS program.

To limit the risk of ecological bias when comparing the three sampling strata, it was decided to select only DRENETs with schools comprising all three strata, although there was a 'contagion risk' among public high schools located in the same city. Out of the 26 DRENETs that implemented the LS program, only six had schools featured in each of the three sampling strata. All public schools in these six DRENETs (Adzopé, Daloa, Bouaflé, Korhogo, Abidjan 2, and 3 Abidjan) were eligible to participate in the study.

The DRENETs selected by sampling stratum are presented in Table 1.

Table 1: Distribution of the number of schools according to the DRENETs and strata

DRENET	Stratum without LS program	Stratum with LS program	Stratum with LS program and extracurricular activities
ABIDJAN 2	4		1
ABIDJAN 3	5	1	
BOUAFLE	2	2	
DALOA	1	3	5
ADZOPE		5	2
KORHOGO		1	4

III. Study population

This study targeted students and school staff from the selected public schools, including specifically students aged 10 - 24 years old attending grades 6th to 12th in public schools. However, grades 6th and 10th were not included in the sampling frame as these classes often include students from other schools who had probably been exposed to the LS program for less than a school year.

The inclusion criteria for students were as follows:

- Students aged 10 – 24 years old;
- Students who have attended the selected public high schools for at least a full school year;
- Students in 7th, 8th, 9th, 11th and 12th grades;
- Minor students (aged below 18 years old) whose parents/guardians have signed the informed consent form allowing the child to participate in the study.

The inclusion criteria for school staff were as follows:

- Teachers who have been working in public high schools for at least a full school year;
- Administrative staff headmaster, deputy headmaster, education counsellor, treasurer, secretary, librarian, nurses, doctors, education inspector, orientation inspector, and social workers) who have been working in the selected public high schools for at least a full school year.

The personnel not targeted by the LS program was excluded from this study, namely security guards, cleaners, drivers, cooks and maintenance personnel.

IV. SAMPLING FRAME AND SAMPLE DESIGN

Sampling took into account all public high schools of the six selected DRENETs. The list of public high schools was divided into three separate sampling frames corresponding to the three sampling strata. The quarterly reports sent by each public high school to the Department of Pedagogy and Continuous Training (APFC) and the Directorate of Pedagogy and Continuing Education (DPFC) detail the total number of teachers who received or not training on LS program and number of LS sessions conducted during the reporting period. The quarterly reports preceding the study implementation were used to categorize public high schools per stratum. Strata were defined as follows:

- **The stratum without LS program** is a sampling area, including public high schools characterized by at least one of the following two criteria:
    - Public high schools where the LS program was not implemented during the school year preceding the study (no Life skills sessions reported in the last quarterly report);
    - Public high schools with less than 50% of teachers trained in techniques and methods of application of school-based life skills (calculated as the percentage of teachers trained in Life skills among all teaching staff as reported in the last quarterly report).
- **The intermediate stratum** is a sampling area including all public high schools where the two major criteria are met and none of minor criteria is met:
    - ***Major criteria***
    - Public high schools where the LS program was implemented in the year preceding the study (at least one Life skills session reported in the last quarterly report);

- Public high schools with less than 50% of teachers trained in techniques and methods of application of school-based Life skills (calculated as the percentage of teachers trained in Life skills among all teaching staff as reported in the last quarterly report).

  • ***Minor criteria***

- Public high schools with a functional school health committee (at least one school health committee meeting reported in the last quarterly report);
- Public high schools with a functional health club (at least one health club meeting reported in the last quarterly report);
- Public high schools with a functional GBV monitoring committee (at least one GBV monitoring committee meeting reported in the last quarterly report).

- **The complete stratum** is a sampling area including all public high schools where the following two major criteria are met and at least one of the minor criteria is met:

  • ***Major criteria***

  - Public high schools where the LS program was implemented in the year preceding the study (at least one Life skills session reported in the last quarterly report);
  - Public high schools with less than 50% of teachers trained in techniques and methods of application of school-based Life skills (calculated as the percentage of teachers trained in Life skills among all teaching staff as reported in the last quarterly report).

    • ***Minor criteria***

  - Public high schools with a functional school health committee (at least one school health committee meeting reported in the last quarterly report);
  - Public high schools with a functional health club (at least one health club meeting reported in the last quarterly report);
  - Public high schools with a functional GBV monitoring committee (at least one GBV monitoring committee meeting reported in the last quarterly report).

Students were randomly selected using a three-stage cluster sampling method.

- First stage: in each stratum, public high schools were selected in proportion to size by systematic random sampling. The size measurement is the number of students in each school as reported by the MENET during the 2013-2014 school year. The sampling frame was ordered by DRENET to ensure the geographic dispersion of public high schools
- Second stage: In each selected public high school, a fixed number of classes was selected by systematic random sampling from the list of all classes ordered per grade level so that all grade levels are represented in the sample. Classes were drawn with equal probability.
- Third stage: in each selected class, a fixed number of students was selected by simple random sampling.

School staff was randomly selected using a two-stage cluster sampling method.

- First stage: In each sampling area, public high schools were selected in proportion to size (number of students) by systematic random sampling. The public high schools selected for the study about students were also used in the study conducted among school staff.
- Second stage: in each selected public high school, a fixed number of school staff members was selected by simple random sampling.

V. SAMPLE SIZE

The sample size was calculated to show a statistical difference between strata. Since the prevalence levels of the various indicators are unknown, the value of 50% was taken as a reference.

5.1 Sample size for students

The sample size was calculated to show a statistical difference between a stratum with a prevalence of 50% and a stratum with a prevalence of 58%. The sample size so calculated was multiplied by two to account for the design effect and by 0.25 to account for refusals to participate in the study. A high non-response rate was chosen to take into account the fact that some parents of minor students would not be available to come to school and take part in the parental consent administration.

A total sample size of 4,748 students should be selected to identify a 7% increase against a 50% baseline level. However, this sample size was rounded to 4,788 in order to select 12 schools per stratum, 7 classes per school, and 19 students per classroom.

5.2 Sample size for school staff

As the size of school staff population was smaller than the size of students, it was not possible to obtain a sample of staff as large as the sample of students, using the same methods. In addition, data analysis for all school staff was not intended to demonstrate a dose-response effect (requiring three-stage). The purpose was only to compare two groups (one being twice the size of the other) among school staff. Thus, a sample of school staff in public high schools not exposed to the LS program was compared with the sample of school staff drawn from the two strata of public schools exposed to the LS program. The calculated sample size was multiplied by two to account for the design effect. A refusal rate of 10% was applied.

A total sample of 1,190 school staff members should be selected to identify a 15% increase against a 50% baseline level. However, this sample size was reduced to 1,188 in order to select 12 schools per stratum and 33 school staff members per selected public school.

VI. DATA COLLECTION

6.1 Training of interviewers, facilitators and supervisors

All interviewers, facilitators and supervisors received training in the techniques and procedures described in the protocol and principles of research ethics. All interviewers, facilitators and supervisors obtained their ethics certificate online on the «Collaborative Institutional Training Initiative» website.

6.2 Pre-testing of tools

Following the training, a pre-testing of collection tools was organized from 14th to 17th, April 2015 at the Lycée Moderne of Angré and Lycée Moderne 1 of Abobo. The purpose of this pre-testing was to control the collection environment and ensure the coaching of interviewers and facilitators on collection techniques and ethical principles. The pre-testing implementation was disrupted by a teachers' strike. The pre-testing nevertheless helped optimize sampling and information procedures for students' parents and set up a timeline of activities for a timely data collection.

6.3 Organization of data collection

Data collection was carried out from April 20th to May 20th, 2015 in 36 public schools. In each public high school, data collection lasted five days. In each selected school, the collection teams first selected seven classes and then 19 students per class. School administrators delivered to selected students under 18 years a meeting notice for parents /guardians to participate in a briefing session on the study.

The parents of the selected students under 18 years were also contacted by telephone by the administrative staff to inform them about or remind them of the meeting, and specify the date, place and time. The informed consent was administered to parents/guardians during an individual interview.

6.3.1 Organization of data collection with school staff

The study took place during the usual course schedules. School staff was invited by the school head to participate in a briefing session on the study. During this briefing session, interviewers insisted on the voluntary participation and invited school staff to be present on the day of sampling.

The 33 randomly selected school staff members were subdivided into subgroups of less than 12 persons to participate in data collection. Each subgroup was led into a specific room where each participant was sitting separately at an individual table separated by a cardboard shield to ensure confidentiality. During data collection, only interviewers and participants were allowed in the room. Interviewers distributed to each school staff member an informed consent form with his/her unique personal identification number and a questionnaire. An interviewer read out the informed consent form and answered the respondents' questions of understanding. Participants who did not give their consent had the choice to leave the room or stay there to avoid school staff members being aware of their refusal.

Interviewers read the questionnaire aloud and participants completed the questionnaire themselves. Each respondent gave back his/her questionnaire to the interviewer in a sealed envelope. The envelopes remained sealed until data entry was performed at FHI 360 office.

At the end of each collection session, a personalized pen and notepad were given to each participant.

6.3.2 Organization of data collection with students

The study took place during the usual course schedules. Interviewers established a nominative list of students selected per grade and age. Eligible students were subdivided into subgroups of 10 persons in the same age group (10 - 14 years against 15 - 24 years) according to their availability. Each of the 10 students was sitting separately in a specific room at an individual table separated by a cardboard shield to ensure confidentiality. Interviewers distributed informed consent forms to students over 18 years and assent forms to students under 18 years, followed by questionnaires, depending on the students' age (a questionnaire for students aged 10 - 14 years and another questionnaire for students aged 15 – 24 years). Interviewers gave each student a unique personal identification number. During data collection, only interviewers and participants were allowed in the room. Interviewers read out the informed consent form and answered the respondents' questions of understanding. Participants who did not give their consent had the choice to leave the room or stay there so that their refusal is not known.

Interviewers read the questionnaire aloud and participants completed the questionnaire themselves. Each respondent gave back his/her questionnaire to the interviewer in a sealed envelope. The envelopes remained sealed until data entry was performed at FHI 360 office.

At the end of each collection session, a personalized pen and notepad were given to each participant.

6.4 Data collection tools

Students and school staff answered questions using standard pre-coded questionnaires. The questionnaires for students aged 18 - 24 years and school staff included the same themes:

- Socio-demographic characteristics;

- Knowledge about STIs and HIV;
- Sexual behaviors and condom use;
- Stigmatization and discrimination against PLHIVs;
- Gender-based Violence;
- Use of STI / HIV control and reproductive health services;
- Self-determination.

The questionnaire for students aged 10 – 14 years covered the same themes, excepted for the section on sexual behaviors and condom use.

VII. STUDY MONITORING

7.1 Study monitoring committee

A steering committee was set up and was responsible for monitoring data collection in the 36 public high schools; The committee was composed of contact persons from MEN/PEPFAR, the Directorate of Pedagogy and Continuous Training (DPFC), the Directorate of School Associations and Social Work (DMOSS), the Directorate of Strategies, Planning and Statistics (DSPS), the National School and University Health Program (PNSSU), the Directorate of Prospective, Planning, Evaluation and Health Information (DPPEIS), the National Statistics Institute (INS), FHI 360 and CDC / PEPFAR.

The steering committee was held an information and harmonization meeting on April 24th, 2015 at FHI 360 Office. This meeting, chaired by the Coordinator responsible for conducting the study, helped improve the administrative and logistical support for a proper realization of data collection.

7.2 Supervision

In collaboration with the other members of the steering committee, FHI 360 organized the supervision of study teams during data collection. Supervisions began on April 22nd, 2015 in the public high schools selected in the DRENETs of Abidjan 2 and Abidjan 3. Supervisions were carried out over four weeks by three teams of four supervisors in the thirty-six secondary schools selected. The supervisors observed the regularity of data collection and conducted interviews along with the study team members and administrative staff of the school visited in order to inquire about the study progress. The supervisors sent the completed collection tools to FHI 360 on a weekly basis.

VIII. DATA MANAGEMENT

The study facilitators and supervisors transported and sent all consent/assent forms obtained from participants and parents as well as questionnaires to FHI 360 office. These completed collection tools were stored and secured in a cabinet with limited access to interviewers.

Entry operators recruited by FHI 360, carried out a double data entry at FHI 360 premises using Epidata v1.4.4.5. The two databases were compared and data was cleaned. The weighting coefficients were calculated.

IX. DATA ANALYSIS

Data was analyzed using STATA 13. The analysis was weighted to take into account the sampling method and weighting coefficients.

9.1 Analysis of students' answers

Each section of the questionnaire was analyzed by stratum. The dose-response effect was evaluated using the chi-square test for trends.

Key variables (except for age) were analyzed by stratum and adjusted for age, gender, and grade. To compare the three strata, a direct standardization based on gender, age and grade level was performed so that all strata had the same distribution for these variables as the stratum with program and extracurricular activities.

9.2 Analysis of school staff answers

The sample size was calculated to compare staff in the stratum without LS program and staff in the other two strata combined (intermediate stratum and complete stratum). The continuous variables were compared using the student's T-test and the discrete variables that were analyzed using the Chi-square test.

ETHICAL CONSIDERATIONS

The study protocol was approved by the Protection of Human Subjects Committee (PHSC) of FHI 360, the National Ethics Committee for Research (CNER) of Côte d'Ivoire and the review committee of CDC/Atlanta.

A consent or assent procedure was applied for all respondents in this study. Parents of under-age students (10-17 years) took part in an individual consent procedure and confirmed their acceptance by signing a parental informed consent form.

STUDY RESULTS

I. RESULTS FOR THE STUDENTS

A total of 3,825 students participated in the study, including 3,078 students who answered the questionnaire for students aged 15 – 24 years and 747 students who answered the questionnaire for those aged 10 – 14 years. However, 14 students returned a blank questionnaire and were excluded from the analysis. The number of respondents per stratum and type of questionnaire administered is presented in Table 2.

Table 2: Number of students interviewed per sampling stratum and type of questionnaire administered

Type of questionnaire administered	Stratum without the LS program	Stratum with the LS program	Stratum with the LS program and extracurricular activities	TOTAL
10 – 14 years	761	1136	1181	3078
15 – 24 years	265	238	244	747
TOTAL	1026	1374	1425	3825

There were fewer students in the stratum without the LS program compared to the other two strata. This is due to the fact that most of the students enrolled in the stratum without the LS program were interviewed during a period during which teachers were on strike, which disrupted participants' enrollment. These strikes could also have had an impact on the study results as it is plausible that students interviewed during the study period may behave differently from students who were absent.

The number of students interviewed by DRENET and per stratum shows that the majority of respondents in the stratum without the LS program lived in Abidjan (73%), while each of the other two strata had only 6% of their students living in the capital city.

Table 3: Number of students interviewed by DRENET and per sampling stratum

	Stratum

DRENET	Strate		
	Stratum without the LS program	Stratum with the LS program	Stratum with the LS program and extracurricular activities
Abidjan	704	84	83
Bouaflé	190	260	0
Adzopé	0	561	251
Daloa	73	307	577
Korhogo	0	111	483
Total	967	1,323	1,394

1.1 Characteristics of study participants

The characteristics of the study participants per sampling stratum are presented in Table 4. The sample consisted of 59% of boys and 41% of girls. Girls, however, were overrepresented in the stratum without the LS program where they accounted for 52% of the sample. This disparity in comparison to the other two strata could be explained by three reasons: (1) this stratum is essentially composed of schools located in Abidjan and it is likely that more girls are enrolled in Abidjan than in the other DRENETs; 2) a high school admitting only girls was enrolled in this stratum, 3) the enrollment was disrupted by the teachers' strike and it is possible that more boys than girls were influenced by strike movements and were therefore absent during participants' enrollment.

Students aged 18-24 years represent 42% of the sample (Figure 1). This group might have been overrepresented because they did not require any parental consent. In contrast, parents of students under 18 years were invited to the school to read the parental consent form in order to give their consent, which was not always possible.

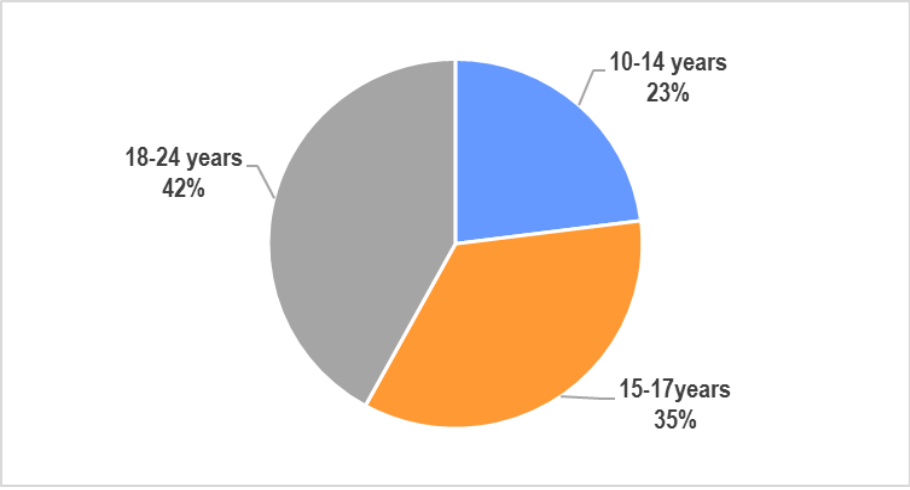

Figure 1: Distribution of the students by age group (n= 3 581)

The median age of respondents was 17 years in the three strata and the average age was almost similar in each of the strata (Table 4). However, it should be noted that the stratum without the LS program had fewer students aged 15-17 years compared to the other strata. The stratum with the LS program had fewer students aged 18-24 years than the other strata.

Table 4: Characteristics of participating students by sampling stratum

Characteristics	Stratum without the LS program	Stratum with the LS program	Stratum with the LS program and extracurricular activities	TOTAL
Sex% (n=3798)				
Male	48	66	61	59
Female	52	34	39	41
Age group % (n=3581)				
10-14 years	30	22	19	23
15-17 years	24	42	36	35
18-24 years	46	37	45	42
Age in years (n=3581)				
Average	17.0	16.7	17.0	16.9
Median	17	17	17	17
Grade level % (n=3811)				
Twelfth grade	28	14	13	17
Eleventh grade	16	8	10	10
Ninth grade	19	28	37	19
Eighth grade	20	27	22	23
Seventh grade	17	23	18	20
% student repeating a grade (n=3784)	21	21	25	22

About 22% of the students (more than one in five students) had repeated a grade. The ninth and twelfth grades were the classes recording the highest proportion of grade retention/repetition, 38% and 32%, respectively (Figure 2). Because of this grade repetition, classes were composed of students of various ages. The proportion of students aged 18 years and over was 3% in 7th grade, 12% in 8th grade, 46% in 9th grade, 82% in 11th grade and 97% in 12th grade.

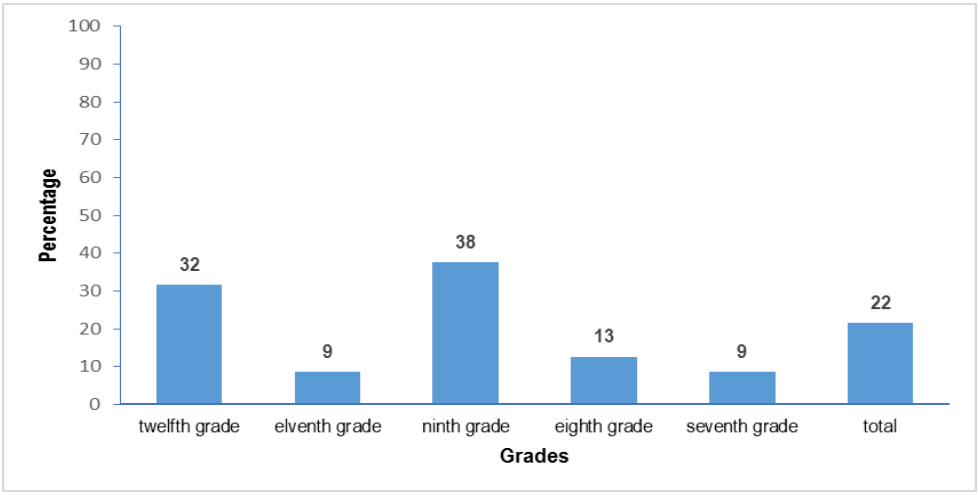

Figure 2: Proportion of students repeating a grade by grade level (n=3656)

1.2 Knowledge about HIV transmission and prevention methods, and misconceptions about HIV

Students answered a number of questions to assess their knowledge on HIV modes of transmission and prevention methods, and misconceptions about HIV. Sexual-related questions were not submitted to children under 15 years. The proportion of correct answers for all these indicators increased with age and grade level. The level of knowledge about HIV was the same for both girls and boys. The majority of the students aged 10-24 years (88%) were aware that HIV could be transmitted by a syringe contaminated with the blood of an infected person and 82% knew that HIV could be transmitted from mother to child during pregnancy, childbirth, or breastfeeding (Figure 3).

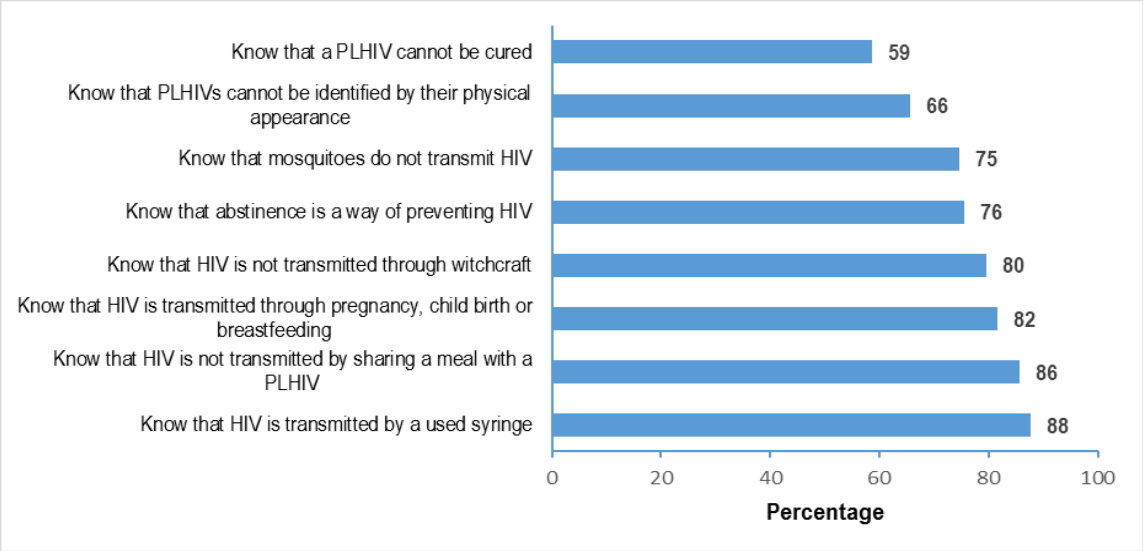

Figure 3: Percentage of correct answers to questions about HIV knowledge and misconceptions among students aged 10 - 24 years (n=3 798)

A number of misconceptions about HIV persisted in this group. While 86% of the students knew that HIV is not transmitted by sharing a meal with a person living with HIV (PLHIV), two in ten students thought that HIV could be transmitted through witchcraft, a quarter of the students thought that mosquitoes transmitted HIV, and one third of the students thought that they could identify a PLHIV only at a glance. Moreover, almost a quarter of the students did not know that sexual abstinence is a way of preventing HIV.

Compared to students living in Abidjan, fewer students in the DRENET outside of Abidjan reported knowing that a person can live for a long time with HIV (63% against 76%, $p < 0.001$), that an infected person cannot be identified by its physical appearance (63% against 74%, $p < 0.001$), that abstinence is a way of preventing HIV (74% against 82%, $p = 0.036$), that mosquitoes do not transmit HIV (72% against 84%, $p < 0.001$). However, students in Abidjan were more likely than the ones outside of Abidjan to think that HIV can be transmitted through witchcraft (25% against 19%, $p = 0.013$).

The majority of the students aged 15-24 (87%) knew that condoms are a way of preventing HIV and 84% knew that only HIV testing helps determine if someone is infected. However, nearly one in three students did not know that sexually transmitted infections increase the risk of contracting HIV, and three quarters of the students thought that choosing an apparently healthy sexual partner is a way to prevent HIV infection.

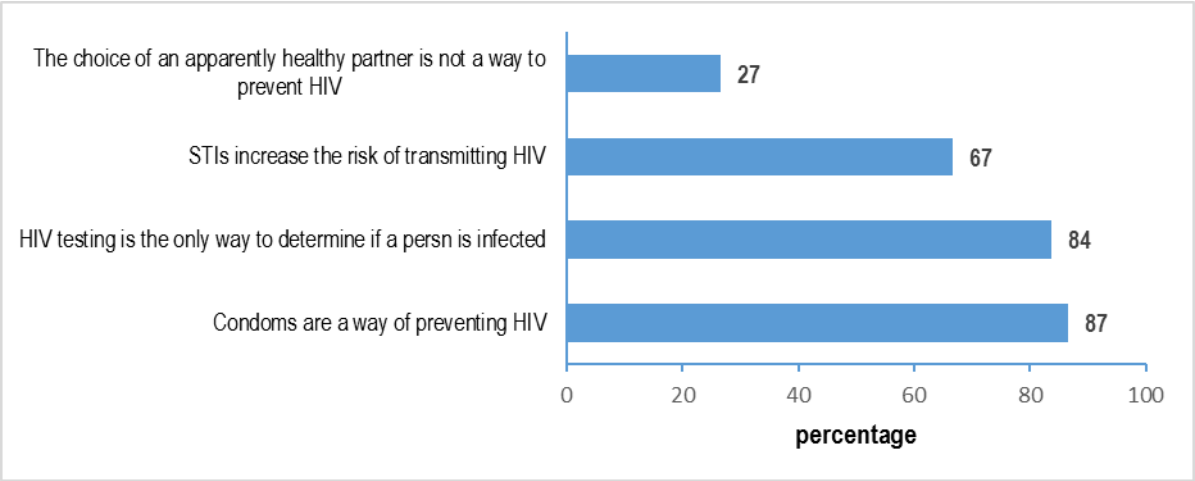

Figure 4: HIV-related knowledge reported by students aged 15 - 24 years (n= 2947)

1.3 Sexual behaviors among students aged 15 - 24 years

Among students aged 15-24 years, 54% of boys and 45% of girls reported that they have already had sexual intercourse. Among minor students (aged 15-17 years), more boys than girls reported that they have already had sex (39% against 29%, p = 0.001). Sexual intercourse before the age of 15 was reported by 8% of girls and 22% of boys (Figure 5).

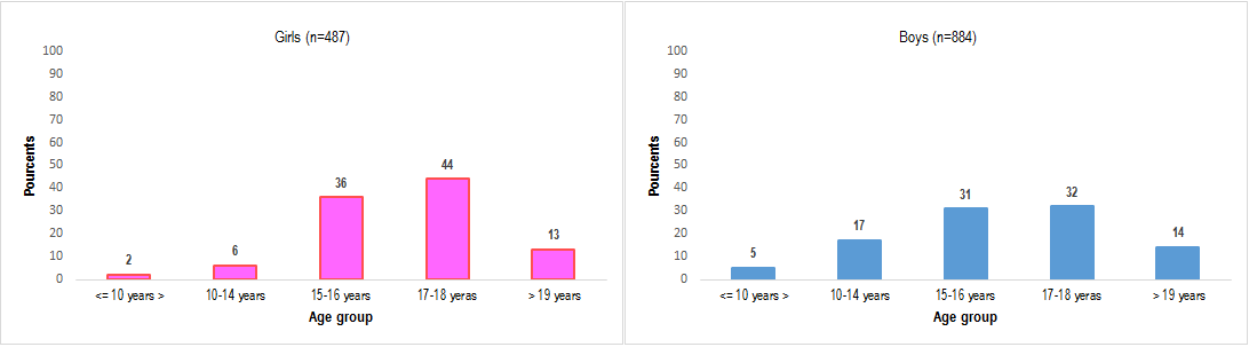

Figure 5: Age of first sexual intercourse by sex among students

The average age at first sexual intercourse reported by girls was 16.7 years (median age 17 years), values very similar to those estimated for the overall female population in Côte d'Ivoire in the 2012 Demographic and Health Survey (DHS-CI). Age at first sexual intercourse among girls aged 15 to 24 years was lower in the regional schools (average: 16.5 years, median: 17 years) compared to schools located in Abidjan (average: 17.1 years, median: 18 years).

The average age at first sexual intercourse reported by boys was 16.1 years (median age 16 years). The 2012 DHS reported that the median age at first sexual intercourse among men aged 20-24 years was 18.1 years. Unlike girls, boys in the city of Abidjan reported that they had their first sexual intercourse earlier than those located in regions (average: 15.6 years in Abidjan, versus 17.6 in the other regions). These results suggest that some students may have reported inaccurate information.

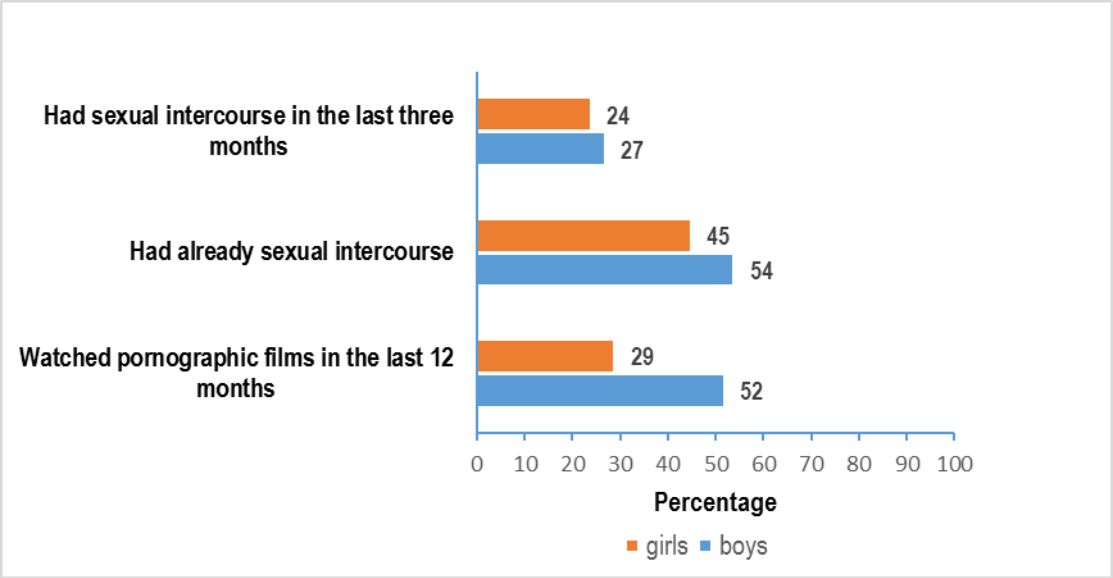

Figure 6: Sexual activities reported by students aged 15 - 24 years, by sex

More than half of the boys and over one in four girls reported that they watched pornographic films in the last 12 months (Figure 6).

Overall, 24% of the girls versus 27% of the boys aged 15-24 years reported that they had sex in the last three months. Among sexually active students, more girls than boys said that they had a regular sexual partner in the last three months (73% of the girls versus 65% of the boys, p = 0.018; Figure 7). In the majority of the cases (59%), the regular partner was also a student. However, it is possible that not all students understood the question. Indeed, although the wording clearly states that the question was about the regular sexual partner, many non-sexually active students said that they had a regular partner. A total of 21% of boys and 22% of girls aged 14-24 years had a regular partner in the last three months.

Among sexually active students, 24% of the boys and 11% of the girls stated that they had at least two sexual partners in the past three months (p <0.001). However, 21% of students did not want to answer this question, thus suggesting that the frequency of multiple sexual partnerships could be higher. On the other hand, since the proportion of boys who reported being sexually active appeared to be overestimated, boys may have reported more partners in order to identify with their sexual norms. In total, 6% of boys and 3% of girls aged 15-24 years reported that they had at least two sexual partners during the three months preceding the survey (p <0.001).

The DHS-CI 2012 reported that among young people aged 15-24 years, 23% of men and 7% of women had multiple sexual partners in the previous 12 months. It should be noted, therefore, that multiple sexual partnerships were less frequent among students in schools than in the overall Ivorian population of the same age.

Among sexually active students, 9% of boys and 19% of girls reported that they have had sexual intercourse with a partner 10 years older (p = 0.002) in the last three months. Out of all students aged 15-24 years, 7% of girls and 4% of boys had this type of intergenerational sex during the three months preceding the survey (p=0.003).

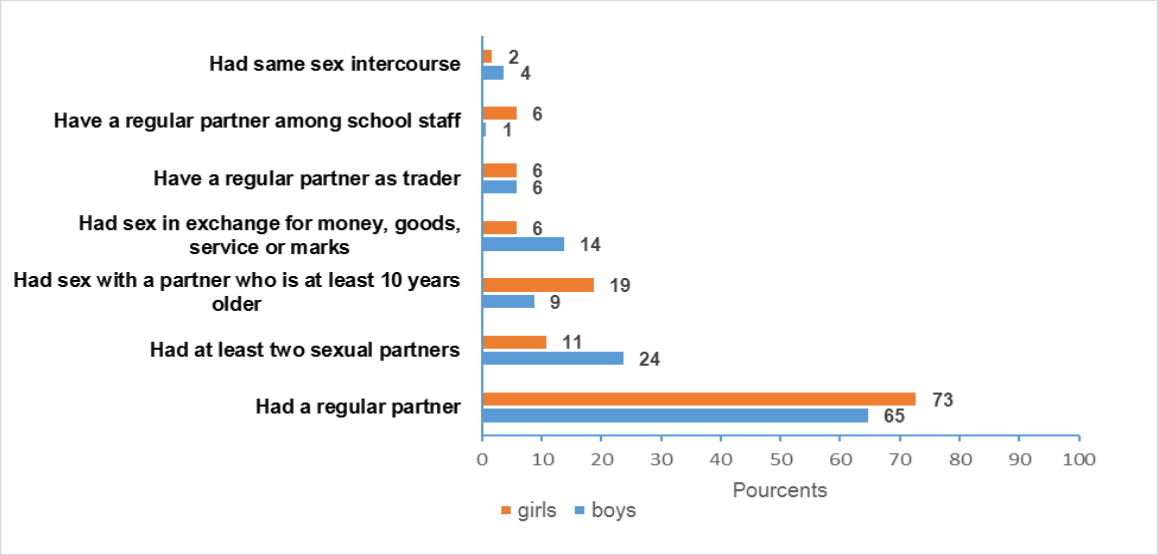

Figure 7: Types of partners reported by sexually active students aged 15-24 years in the three months preceding the survey (n=783)

Among sexually active students, 14% of the boys and 6% of the girls reported that they have had sex in the last three months in exchange for money, goods, services or good marks (p = 0.017). The non-response rate was around 10% for both sexes. It should be noted that this question did not specify whether the respondent was receiving or giving these goods in exchange for sex. Among all the students aged 15-24 years, 2% of girls and 5% of boys had commercial sex in the three months preceding the survey (p = 0.009).

Among sexually active students, 1% of the boys and 6% of the girls said they had a regular partner working at school as a teacher or school staff member in the last three months (p <0.002). Out of all the students aged 15-24 years, 2% of girls and 0.6% of boys had a regular partner in the three months preceding the survey who worked at school as a teacher or school staff member (p <0.001).

Relationships between students and traders around schools are assumed to be relationships that aim to obtain benefits in kind. Among sexually active students, 6% of the boys and 6% of the girls said that they had a trader as regular sexual partner in the last three months; among all the students aged 15-24 years, 2% of the girls and 2% of the boys had a trader as regular sexual partner during the three months preceding the survey.

Among sexually active students, 4% of the boys and 2% of the girls reported that they had a same-sex relationship in the past three months; 1% of girls and 2% of boys among all students aged 15-24 years had same-sex relationships during the three months preceding the survey. Six percent (6%) of the girls and 13% of the boys did not want to answer this question.

1.4 Condom use

As depicted in Figure 8, among students aged 15-24 years who have already had sexual intercourse (n = 1 527), the proportion of girls and boys who reported having used a condom at last sexual intercourse was almost similar (60% versus 62 %, respectively; p = 0.417). This proportion remains insufficient to stem the HIV epidemic.

Among students aged 15-24 years who had sexual intercourse in the last three months (n = 776), 66% of boys and 62% of girls reported consistently using condoms with all their partners in the last three months. It should be noted a low frequency of consistent condom use with all sexual partners in the last three months among students who reported having at least two sexual partners in the last three months compared to students who had only one sexual partner during the same period (58% versus 68%, p=0.020).

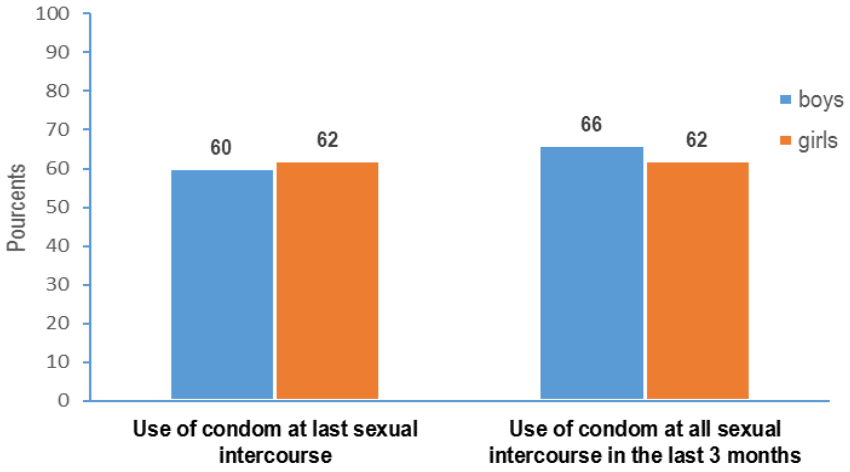

Figure 8: Reported condom use among sexually active students aged 15-24 years by sex

1.5 Verbal, physical and sexual abuse in schools

The physical and verbal abuse experienced by students aged 10 – 24 years in schools during the previous school year is depicted in Figure 9. More boys than girls reported being humiliated or insulted by school staff during the previous school year (17% of the boys versus 12% of the girls, p = 0.004). Similarly, more boys than girls reported being subject to corporal punishment by school staff during the previous school year (11% of the boys versus 6% of the girls, p<0.001).

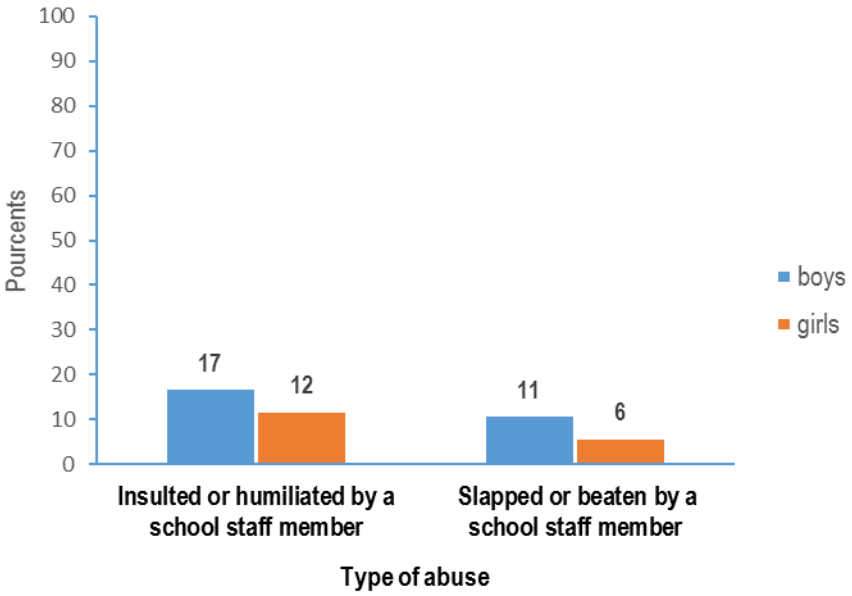

Figure 9: Reported verbal and physical abuse during the previous school year among students aged 10 - 24 years by sex

Sexual abuse reported by students aged 15 – 24 years during the previous school year is shown in Figure 10. Almost one quarter of the students of both sexes reported having experienced unwanted touching by their classmate during the previous school year. Among students aged 15 – 24 years, 25% of girls and 23% of boys had their private parts touched by a classmate without their consent in the previous school year. This type of sexual abuse was reported by the same proportion of students aged 15 – 17 years as those aged 18 years or older.

More boys (4.5%) than girls (2.9%) reported that they had been sexually abused by another student during the previous school year, but the difference was not statistically significant (p = 0.135). Forced sex with other students was reported more frequently by students aged 15 – 17 years than by those aged 18 – 24 years (5.5% against 3.1% ; p=0.050).

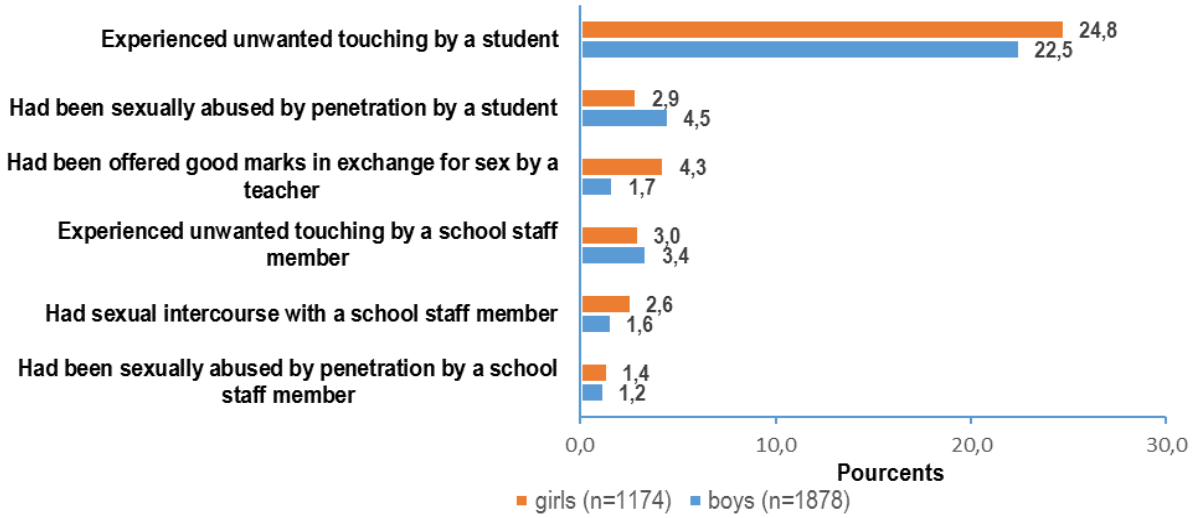

Figure 10: Reported sexual abuse among students aged 15-24 years during the previous school year, by sex (n=2 717)

Overall, 4.3% of the girls reported having been offered good marks in exchange for sex in the previous school year, compared with 1.7% of the boys (p <0.001). A similar proportion of both boys and girls reported having experienced unwanted touching by school staff during the previous school year (3.0% of girls versus 3.4% of boys, p = 0.565). This type of touching was comparable by age groups (3.5% in the 15-17 age group compared with 3.2% in the 18-24 age group, p = 0.606). More girls (2.6%) than boys (1.6%) aged 15-24 years reported that they had sexual intercourse with a school staff member from their school during the previous school year (p= 0.025). Among all students aged 15 – 24 years, 1.1% of the boys and 1.4% of the girls reported that they had non-consensual sex with a school staff member during the previous school year.

1.6 Pregnancy and pregnancy prevention

Among students aged 15-24 years, 8% of the girls reported having already been pregnant, and 6% of boys reported having gotten their sexual partners pregnant (p = 0.009). This difference is difficult to interpret since 16% of boys and 8% of girls did not answer this question but were included in the denominator. Among girls aged 15-24 years who reported that they had sex in the last three months, one in four (25%) had already been pregnant.

Among students aged 15-24 years who had sex in the last three months, 36% of girls and 40% of boys reported using a contraceptive method other than condom with their current partner (p = 0.303).

Among students aged 15-24 years who have already had sexual intercourse, 23% reported having received family planning services to prevent pregnancy (23% of boys and 23% of girls, p=0.932).

1.7 Use of alcohol and drugs

Students aged 15-17 years were 16% who drank alcohol in the previous school year, compared to 35% of students aged 18-24 years (p<0.001). More boys than girls reported that they drank alcohol in the previous school year (29% against 20%, p <0.001).

In addition, 1.2% of students reported having used drugs during the previous school year (1.4% of boys and 0.8% of girls; p=0.177).

1.8 Attitudes towards gender-based violence

Among students aged 10 – 24 years, almost half of the boys (47%) and one third of the girls (34%) thought that men are superior to women (p<0.001). This attitude was not associated with age, among both girls and boys. However, among students aged 15 – 24 years, both girls and boys, a larger proportion of those who have already had sex thought that men are superior to women, unlike those who have never had sexual intercourse (38% versus 29% for girls, p = 0.012) and (51% against 44% for boys, p = 0.051).

Among students aged 10 – 24 years, less than a third of both girls and boys thought that a woman does not need her husband's permission to see a doctor.

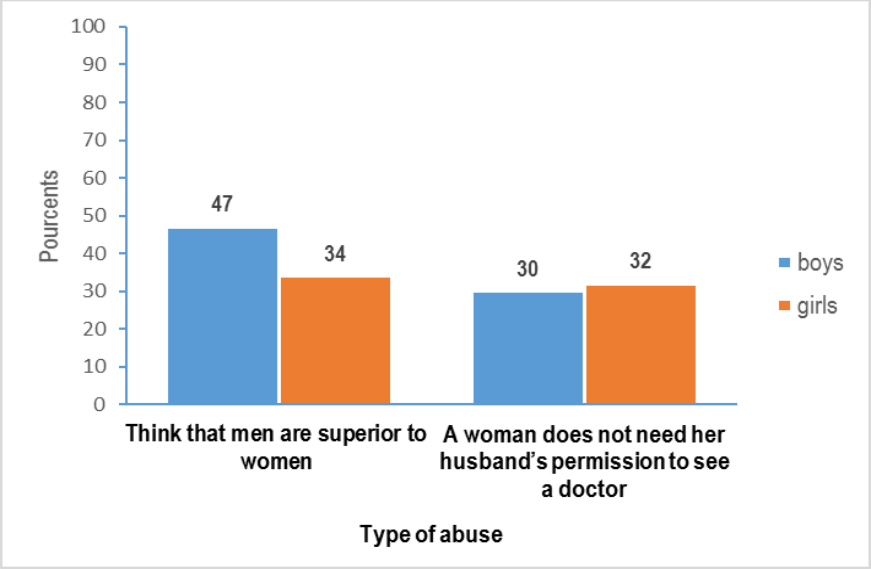

Figure 11: Reported attitudes towards gender-based violence among students aged 10 - 24 years, by sex

Almost a quarter of the students did not answer the questions presented in the section below (Figure 12). Nevertheless, non-respondents were included in the denominator to report the actual percentages of respondents who gave their opinion on gender-based violence.

Almost one in five boys (18%) reported that women should be subject to excision, versus one in ten girls (10%), p <0.001. In addition, 20% of the boys and 13% of the girls reported that a girl cannot refuse excision (p <0.001). The proportion of the students in favor of excision seem high, whereas the Ivorian law forbids it and campaigns against excision are organized throughout the country. The 2012 DHS-CI reports that the Ivorian population proportion in favor to end excision is based on respondents' religion and ethnic group but not on their age. The same study revealed that among the population aged 15-59 years with a secondary or higher education level, only 4% of women and 6% of men were in favor of female circumcision. Therefore, with comparable education level, more students reported being in favor of excision than the whole Ivorian population.

More girls than boys reported that a woman can use contraception without asking her husband's permission (19% of the girls and 15% of the boys, p=0.038). In total, 6% of the students reported that parents can choose their children spouse (8% of the boys and 4% of the girls, p <0.001).

The 2012 DHS-CI reported that almost a quarter of married women had experienced physical violence in the past 12 months. While more work needs to be done to reduce this social scourge, it should be noted that 6% of students said that a husband should beat his wife to discipline her (7% of the boys versus 3% of the girls, p<0.001).

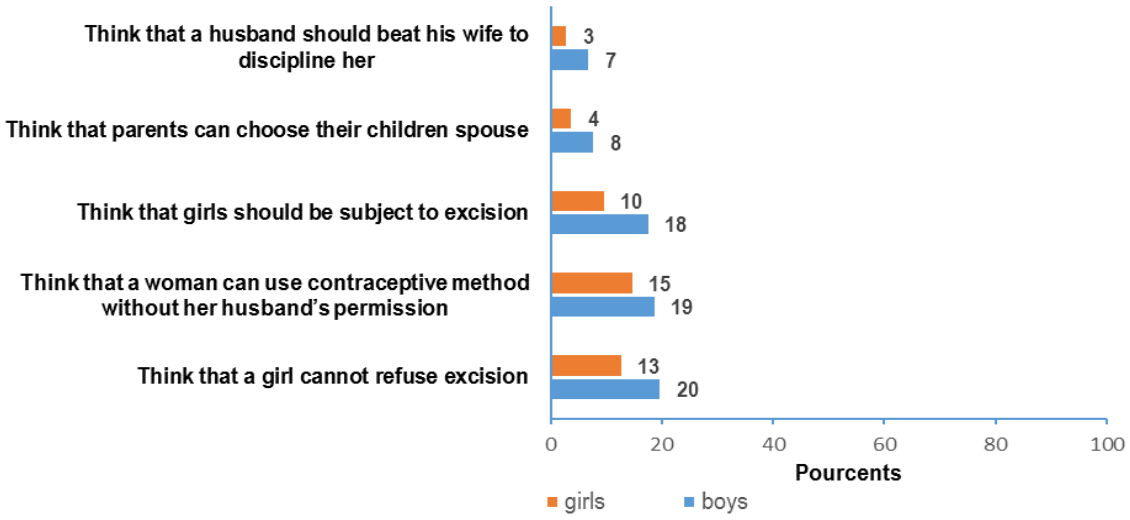

Figure 12: Reported attitudes towards gender-based violence among students aged 15 - 24 years, by sex (n=2 932)

Attitudes about sexuality reported by students aged 15 – 24 years are presented in Figure 13. Less than half of both the girls and boys thought that a woman cannot refuse to have sex with her husband if she does not want to (49% of girls and 48% of boys, p = 0.656).

Nearly two-thirds of the students aged 15-24 years thought that a girl can ask her boyfriend to use condom if she knows that he has other partners (62% of the girls and 64% of the boys; p= 0.227). Similarly, 57% of the boys and 59% of the girls reported that a girl can request the use of condom if she wants (p = 0.339). These figures show that a substantial proportion of students of both sexes are in favor of a society where women sexual health is still controlled by men.

More boys than girls thought that a girl can buy condoms herself (71% of the boys versus 61% of the girls, p <0.001). This difference suggests that some girls thought that condoms are only for men or social or moral barriers prevent them from buying it. Overall, 13% of the girls reported that a girl should ask her boyfriend's permission before buying condoms and the same proportion reported that a boy should ask his girlfriend's permission to buy condoms. More boys than girls reported that a girl should ask her boyfriend's permission before buying condoms (18% versus 13%, p = 0.002), but the difference between the two sexes was not statistically significant compared with the proportion reporting that a boy should ask his girlfriend's permission to buy condoms (16% of boys versus 13% of girls; p=0.066).

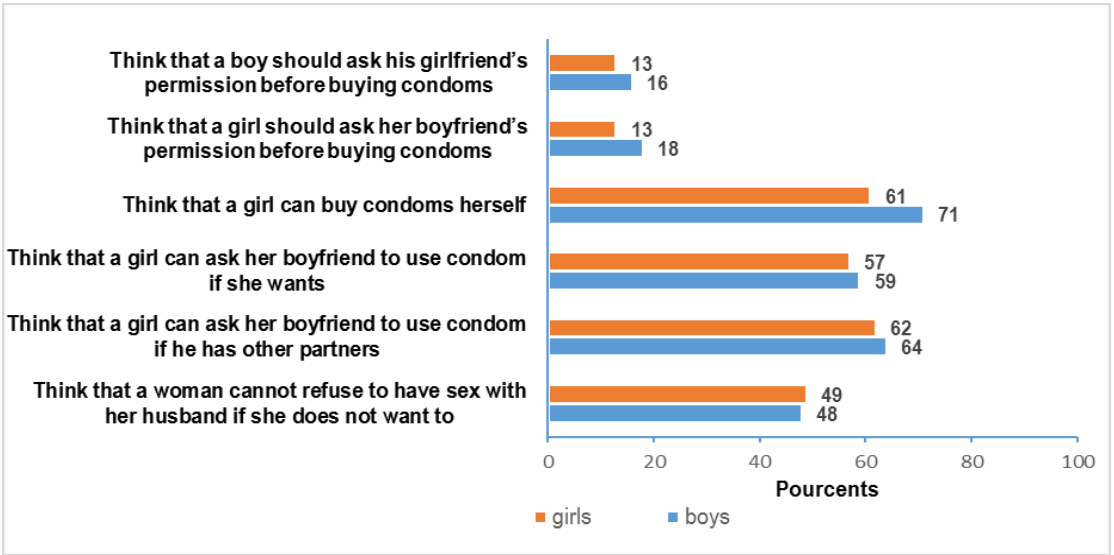

Figure 13: Reported attitudes about sexuality among students aged 15 - 24 years by sex

1.9 Attitudes towards discrimination against people living with HIV

Among all the students aged 10-24 years, 2% reported knowing a student living with HIV in their school. The proportion of students who reported knowing a PLHIV in their school was higher in regions than in Abidjan (2.7% versus 0.6%, p <0.001), while the 2012 DHS- CI showed that the prevalence of HIV was higher in Abidjan than in the regions. Younger students were more likely to report knowing a PLHIV in their school compared to older students (3.6% of the 10-14 age group, 2.1% of the 15-18 age group, and 1.4% of the 18-24 age group; p = 0.032). Likewise, 4.7% of the seventh graders versus 1.6% in all the other classes combined reported knowing a PLHIV (p <0.001). These last two points suggest that younger people thought that they can identify PLHIV. Indeed, 48% of the students in the 7th grade versus 31% of students in all the other classes combined thought that they could recognize a PLHIV by his/her appearance (p <0.001).

About two thirds (2/3) of the students aged 10 – 24 years reported that they would agree to share a meal with a PLHIV (65%), play sports with a PLHIV (66%), play with a PLHIV (67%), and sit next to a PLHIV (68%), Figure 15. These data show that one third of the students inflict discrimination on PLHIV because they are not willing to have common life activities with them. With regards the four abovementioned variables, more 11th and 12th grade students than students in lower grades, and more students aged 18-24 years than students aged 10-17 years said that they would share these common life activities with PLHIV. In addition, more girls than boys would accept to play or participate in sports with a PLHIV.

Although two thirds of the students aged 15-24 years were willing to share moments of their lives with PLHIV, only half (53%) would agree to be friends with PLHIV. More girls than boys would accept to be friend of a PLHIV (55% versus 51%, p = 0.041).

Similarly, more students in Abidjan than students enrolled in the regional schools (64% versus 49%, p <0.001) and more 11th or 12th grade students than students in lower grades (63% versus 49%, p <0.001) reported that they would accept to be friends with a PLHIV.

Less than one third of the students (31%) would agree to use the same toilets with a PLHIV. Those who accepted to share toilets were: more boys than girls (34% versus 27%, p <0.001), students in lower grades rather than in the 11th or 12th grade (34% versus 29%, p <0.001) and students aged 18-24 years rather than students aged 10-17 years (36% versus 28%, p<0.001).

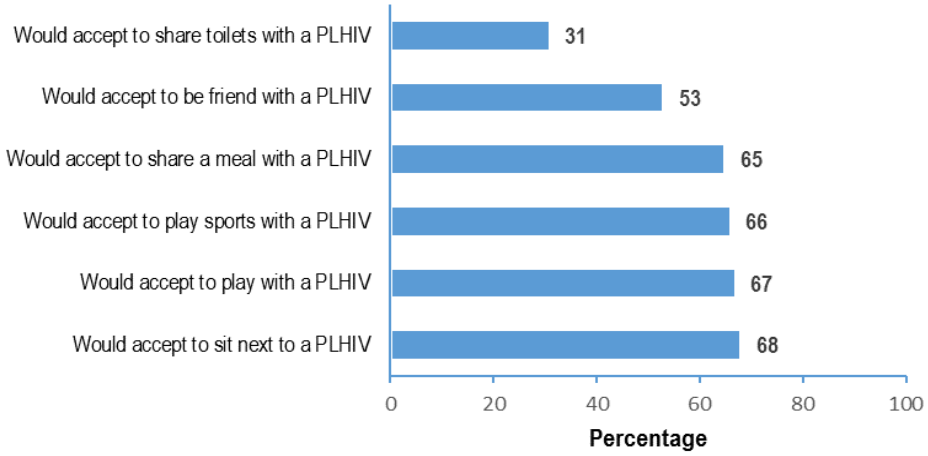

Figure 14: Reported attitudes towards discrimination against people living with HIV (PLHIV) among students aged 10 - 24 years (n=3 684)

Among students aged 10 – 24 years, 7% thought that PLHIVs should be rejected. Those who reported that PLHIVs should be rejected were students enrolled in the regional schools rather than those enrolled in Abidjan (9% versus 4%, p <0.001) and students in lower grades, rather than 11th and 12th grade students (9% versus 3%, p <0.001).

Almost a quarter of the students aged 15-24 year (24%) thought that HIV is God's punishment for those who have sex with anyone. This misconception is largely reported by students in lower grades rather than in 11th and 12th grades (30% versus 25%, p = 0.002), and by students enrolled in the regional schools rather than those enrolled in Abidjan (30% versus 21%; p<0.001).

1.10 Discriminations against PLHIV in schools

Less than 5% of the students reported having witnessed attitudes of discrimination against PLHIV in school during the previous school year (Figure 15). It was primarily students themselves who had attitudes of rejections, as 3.8% of students reported having seen a student who refused to shake another student's hand on the pretext that s/he would be infected with HIV and 3.0 % reported having seen a student who insulted another student on the pretext that s/he would be infected with HIV.

These acts of discrimination were reported with a significantly higher frequency by younger students, namely 7th and 8th grade students, and students in the regions.

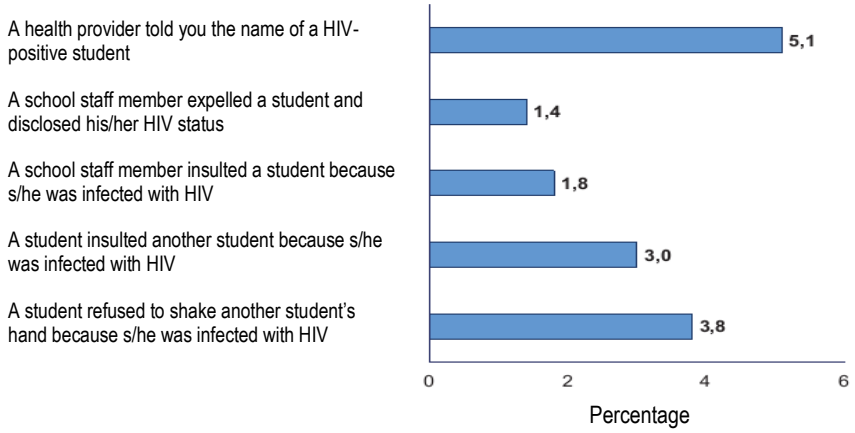

Figure 15: Percentage of students aged 10 - 24 years who reported having witnessed discriminations against PLHIV in school during the previous school year

Less than 2% of the students reported having witnessed attitudes of discrimination by school staff towards students living with HIV in the previous school year. In the previous school year, 1.8% of students reported that they saw a student being insulted by a school staff member because s/he is infected with HIV. Similarly, 1.4% had witnessed a school staff member expel a student by disclosing his/her HIV status. However, in most schools only one, two or three students reported this fact which should have been noticed by a whole class. This distribution of data suggested reporting errors by students who may have misunderstood the questionnaire. Overall, 7th and 8th grade students, rather than upper grade students, said that they saw a school staff member expel a student by disclosing his/her HIV status (2.7% versus 0.4%; p <0.001).

Among students aged 10 to 24 years, 5% reported that a health care provider from the school told them the identity of a student living with HIV. Those who reported having received information about the identity of HIV-positive students were boys rather than girls (6% versus 3%, p <0.001), students under 18 years rather than students aged 18 – 24 years (6% versus 3%, p = 0.001), students enrolled in the regional schools rather than those in Abidjan (6% versus 1%, p <0.001), and 7th, 8th and 9th grade students rather than 11th and 12th grade students (6% versus 2% ; p<0.001).

1.11 Use of HIV testing services

Among students aged 10 - 24 years, 2.6% reported having been tested for HIV and having received testing results. The proportion of students who knew their HIV status does not differ according to the sex or age of respondents.

Less 11th and 12th grade students than students in lower grades reported having already received their HIV test results (1.6% versus 3.0%; p=0.016).

1.12 Genital health and use of health care services

Among students aged 15-24 years, 19% reported that they had genital problems. Genital problems were reported by more girls than boys (22% versus 17%, p = 0.004), a higher number of students aged 18-24 years than students aged 15-18 years (23% versus 14%, p <0.001), more 11th and 12th grade students than students in lower grades (27% versus 15%, p <0.001), and students in Abidjan rather than their classmates enrolled in the regional schools (20% versus 13%; p<0.001).

Among students who reported having genital problems (n = 570), 52% reported having received consultation services at hospital during the last symptomatic episode. Among students who reported that they had genital problems, the proportion of students who reported having been examined at hospital did not differ according to age, sex, grade level, or place of residence.

While 23% of girls and boys had already received family planning services to prevent pregnancy, more boys than girls received these family planning services for reasons other than pregnancy prevention (9% of girls versus 14% of boys, p<0.001).

1.13 Evaluation of the Life skills Programme dose-response effect

For the purpose of comparing strata, its composition was standardized to obtain the same age, gender and grade level structure in the stratum with the LS program and extracurricular activities. During this process, some students could not be matched and therefore this analysis was carried out with n = 3 505 students. The percentages reported in this section may therefore differ from those reported in the previous paragraphs of this report. Although the dose-response effect is a good argument for causality, it should be noted that cross-sectional studies are limited by temporality bias. Given that risk factors and results are measured simultaneously, it is not possible to know whether the program implementation preceded the occurrence of results.

For most variables on HIV-related knowledge, the proportion of students who gave correct answers was higher in the stratum without the LS program. This could be explained by the predominance of students from schools located in Abidjan in this stratum. It is indeed possible that students in the DRENETs of Abidjan are better exposed to information within their family than those in the regions that often reside far from their families. However, two variables on HIV knowledge increased according to strata (Figure 16). Those who knew that fidelity is a way of preventing HIV accounted for 64% in the stratum without the LS program, 68% in the stratum with the LS program, and 69% in the stratum with the LS program and extracurricular activities (p = 0.139). Similarly, more students in the two strata with the LS program reported abstinence as a way to prevent HIV (76% in the stratum with the LS program only and 75% in the stratum with the LS program plus the extracurricular activities) than students in the stratum without the LS program where 73% reported abstinence as a prevention option (p = 0.600 with a design effect of 9.9). In spite of these trends being not statistically significant, this result is encouraging as these topics were essential elements of school-based Life skills.

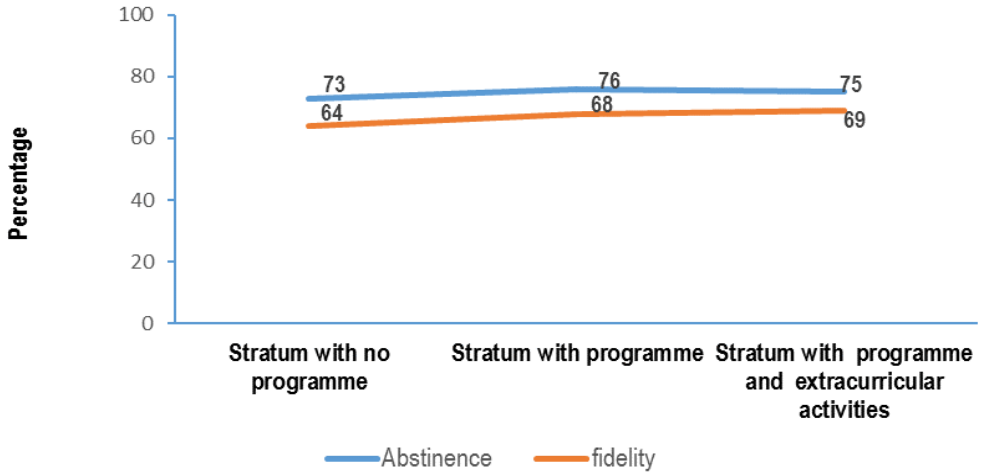

Figure 16: Proportion of students aged 15 - 24 years who knew that fidelity or abstinence are HIV prevention options, by sampling stratum (n=3 504)

The average age at first sexual intercourse was 16.1 years in the stratum without any program, 16.2 years in the stratum with the LS program, and 16.4 years in the stratum with the LS program and extracurricular activities (Figure 17). However, these results were not statistically significant as the 95% confidence intervals overlapped.

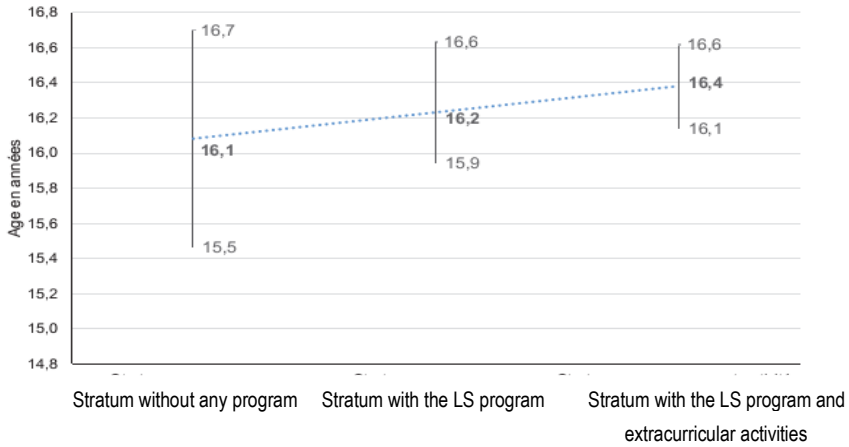

Figure 17: Average and 95% confidence interval at the age of first sexual intercourse for students aged 15-24 years, by sampling stratum

Students aged 15-25 years who reported that they had at least two sexual partners in the past three months represented 3% in the stratum without any program, 2% in the stratum with the LS program, and 1% in the stratum with the LS program and extracurricular activities (p= 0.150; Figure 18). Among students aged 15-25 who were sexually active in the last three months, those who reported having at least two partners in the past three months were 14% in the stratum without any program, 10% in the stratum with the LS program, and 8% in the stratum with the LS program and extracurricular activities (p=0.048).

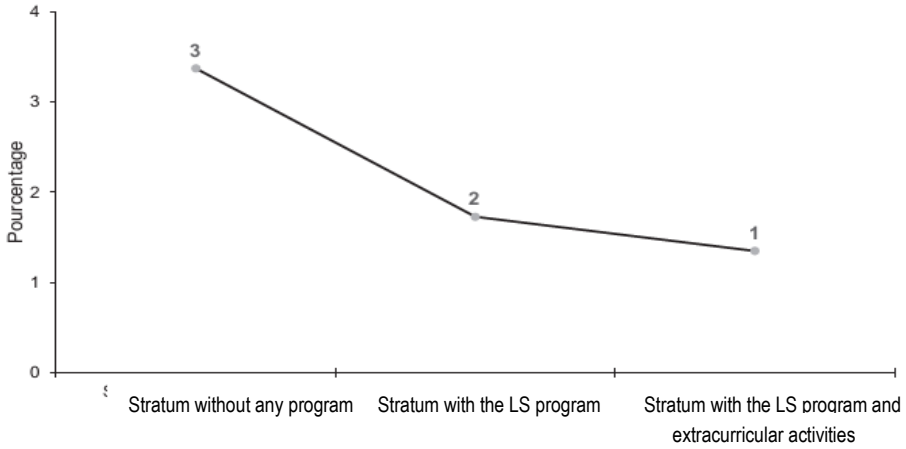

Figure 18: Proportion of students aged 15-24 years who reported having at least two sexual partners in the last three months, by sampling strata (n=2 719)

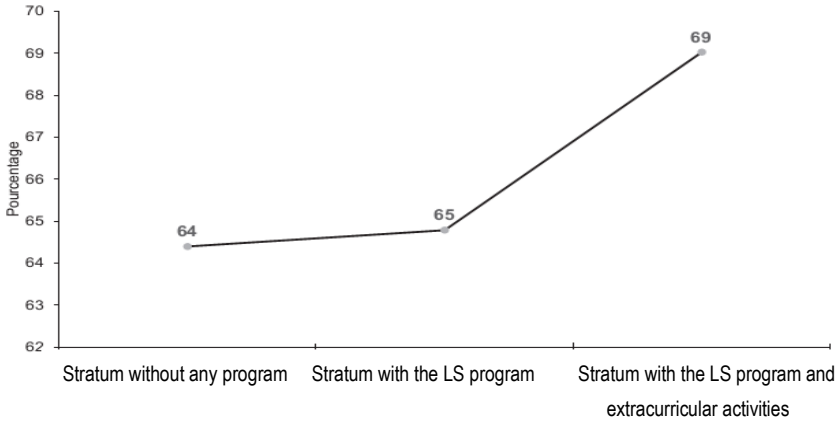

Figure 19: Percentage of students aged 15-24 years who reported having used a condom at last sexual intercourse by sampling stratum, among students who have already had sexual intercourse (n=1 373)

Among students aged 15-24 years who have already had sexual intercourse, those who reported having used a condom at last sexual intercourse were 64% in the stratum without the LS program, 65% in the stratum with the LS program, and 69% in the stratum with the program and extracurricular activities (p=0.381 ; Figure 19).

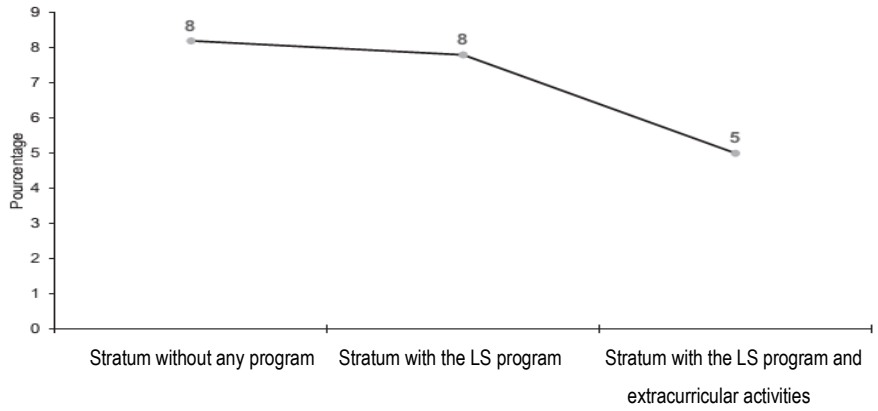

Figure 20: Percentage of students aged 15-24 years who reported having been already pregnant or having gotten their partner pregnant, by sampling stratum (n=2 797)

The proportion of the students aged 15-24 years who had already been pregnant or who have gotten one of their partners pregnant was 8% in the stratum without the LS program and in the stratum with the LS program versus 5% in the stratum with the LS program and extracurricular activities (p= 0.205, Figure 20). Students aged 15-24 years reported less pregnancies in the stratum with the LS program and extracurricular activities than in the other two strata combined (p=0.018).

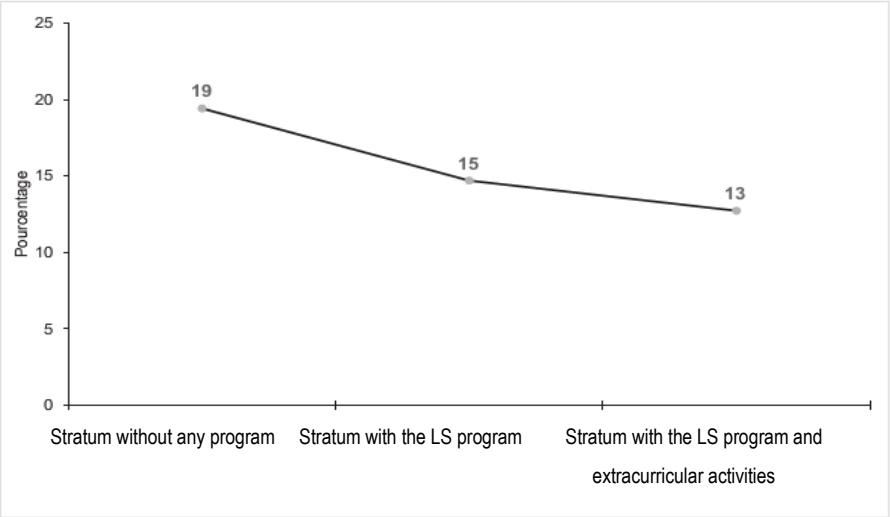

Figure 21: Percentage of students aged 10-24 years who reported having been insulted or humiliated by a school staff member during the previous school year, by sampling stratum (n=3461)

The proportion of students aged 10 – 24 years who reported having been insulted or humiliated by a school staff member during the previous school year was 19% in the stratum without any program, 15% in the stratum with LS program, and 13% in the stratum with the LS program and extracurricular activities (p=0.019).

II. RESULTS FOR SCHOOL STAFF

Among the 1 111 school staff members enrolled in the study, 18 participants did not answer the questionnaire. Thus, 1 093 respondents were selected for the analysis. The distribution of participants according to strata and DRENETs is presented in Table 5.

Table 5: Distribution of school staff enrolled in the study by strata

DRENET	Strata		
	Strata without the LS program	Strata with the LS program	Strata with the LS program and extracurricular activities
Abidjan 2 and 3	250	33	26
Bouafle	65	67	0
Adzope	0	150	65
Daloa	32	99	164
Korhogo	0	14	128
Total	347	363	383

The majority of participants in the stratum without the LS program (72%) was enrolled in Abidjan. This sampling stratum did not include participants from Adzopé or Korhogo. On the other hand, the stratum with the LS program and the stratum with the LS program and extracurricular activities included only a minority of participants from Abidjan: 9% and 7%, respectively.

2. 1 Participants' characteristics

The distribution of participants by socio-professional category is depicted in Figure 22. The majority of the respondents were teachers (68%). Administrative staff accounted for 17% of the sample, educators represented 15%, and health care providers accounted for 0.3%.

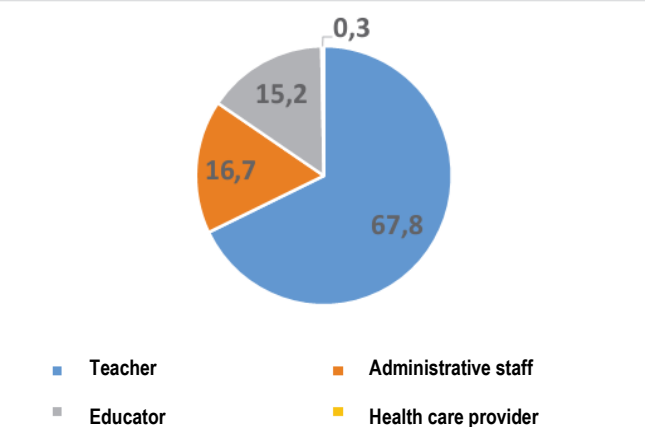

Figure 22: Distribution of the school staff members by socio-professional category

More than 2/3 of the school staff members (79%; Table 6). Among female school staff members, the proportion of individuals aged 22 – 39 years was higher than those aged 40 - 63 years (25% versus 20%, p=0.016).

Table 6: School staff members socio-demographic characteristics

Socio-demographic characteristics		Sex		Total
		Male (n= 865)	Female (n=227)	(n=1 092)
Sex % (n=1 092)		**79**	**21**	
Age % (n=889)	22-29 years	2	5	3
	30-39 years	33	43	35
	40-49 years	36	24	34
	50-59 years	26	29	27
	60-63 years	2	0	2
Age				
	Average	44	43	44
	Median	42	40	42
Marital status% (n=1 089)				
	Married	46	48	47
	Non-marital relationship	32	17	29
	Single	20	30	22
	Widower, widow/divorced	2	4	2

Among all the participants, 18% did not tell their age; the median age was 42 years for men and 40 years for women. The most represented age group for women (43%) was the 30-39 age group, while the most represented age group for men (36%) was the 40-49 age group.

In addition, 47% of the school staff members were married with, a similar proportion for men and women. In addition, 32% of the men reported living in a non-marital relationship compared to 17% of the women. Among women, 30% were single, while among men the proportion was 20%. This result is different from that of the 2012 DHS-CI, which reported that 58% of women aged 15-49 years with at least a secondary education level were single.

2. 2 Knowledge about HIV transmission and prevention methods, and misconceptions about HIV

More than 80% of the school staff members knew HIV modes of transmission and HIV prevention methods and did not report any false beliefs, except for three indicators (Table 7). Overall, 69% of school staff members knew that a PLHIV can live longer, 68% that HIV can be transmitted from mother to child during breastfeeding, and 54% that a PLHIV cannot become HIV-negative. Compared with results from 2012 DHS-CI, school staff members have a better knowledge on HIV prevention methods than the general population aged 15-49 years with a secondary education level and higher. According to the DHS, 60% of women and 80% of men knew that the risk of contracting HIV can be limited by using condoms and 67% of

women and 79% of men knew that sexual intercourse with a single faithful and HIV-negative partner helps prevent HIV.

More men than women knew that taking antibiotics before or after sexual intercourse does not protect against HIV (92% versus 84%, p = 0.001), that fidelity to a HIV-negative partner is a way of preventing HIV (87% versus 80%, p = 0.016), and that HIV is not transmitted through witchcraft (88% versus 80%, p = 0.002). On the opposite, more women than men knew that HIV is transmitted from mother to child during breastfeeding (80% versus 65%, p = 0.004). In the 2012 DHS-CI, a similar proportion (82%) of women with a secondary or higher education level was aware of the risk of virus transmission through breastfeeding.

Table 7: Knowledge of school staff about HIV modes of transmission and prevention methods, and HIV misconceptions by sex

Questions on knowledge about HIV	Sex (%)		p	Total (n=1 093)
	Men	Women		
Know that HIV testing is the only way to determine if a person is infected with HIV	99	98	0.543	99
Know that sharing a meal with a PLHIV does not transmit HIV	99	98	0.471	99
Know that HIV is transmitted through unprotected sex	98	98	0.888	98
Know that abstinence is a way of preventing HIV	97	94	0.017	97
Know that sharing a contaminated syringe transmits HIV	98	96	0.192	97
Know that PLHIV cannot be identified by their appearance	96	97	0.613	96
Know that mosquitoes do not transmit HIV	96	94	0.254	95
Know that a person can be infected several times by the same STI	93	90	0.191	93
Know that systematic use of condoms is a way of preventing HIV	94	90	0.065	93
Know that a PLHIV can live for a long time	91	89	0.406	91
Know that STIs increase the risk of HIV transmission	90	87	0.114	90
Know that taking antibiotics before or after sexual intercourse does not protect against HIV	92	84	0.001	90
Know that fidelity to a HIV-negative partner is a way of preventing HIV	87	80	0.016	86
Know that HIV is not transmitted through witchcraft	88	80	0.002	86

Knows that a person can reduce the risk of HIV infection by limiting the number of sexual partners	84	80	0.203	83
Know that HIV is transmitted during pregnancy, childbirth or breastfeeding	93	76	0.079	82
Know that a PLHIV can live longer under ARV	70	66	0.487	69
Know that HIV is transmitted from mother to child during breastfeeding	65	80	0.004	68
Know that a PLHIV cannot become HIV-negative	54	56	0.625	54

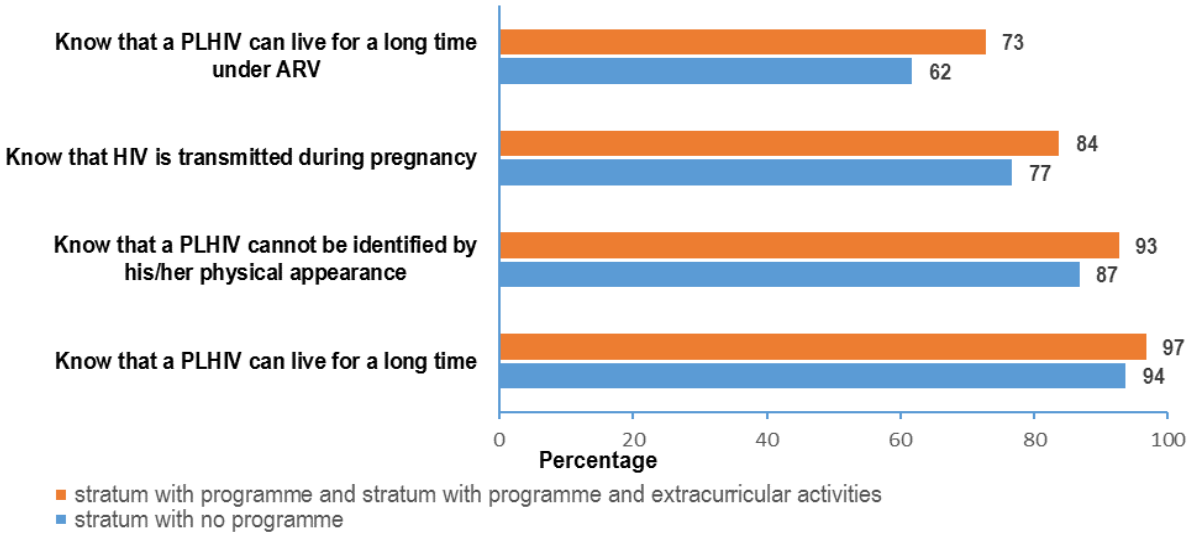

Figure 23: Knowledge of school staff members about HIV modes of transmission and prevention methods, and HIV misconceptions, by strata

The knowledge of school staff members in the stratum with the LS program and the stratum with the LS program and extracurricular activities was better than in the stratum without the LS program for four indicators. School staff members in both strata with at least one program outnumbered those in the stratum without any program, by reporting that a PLHIV can live for a long time (97% versus 94%, p = 0.019) and be identified by his/her physical appearance (93% versus 87%, p = 0.007), that HIV can transmitted during pregnancy (84% versus 77% (p = 0.001), and a PLHIV can live for a long time on ARV (73% versus 62%, p = 0.004) These results suggest that the Life skills program had a positive effect on the acquisition by school staff members of knowledge about HIV transmission modes and prevention methods, and misconceptions about HIV.

2. 3 Sexual behaviors reported by school staff

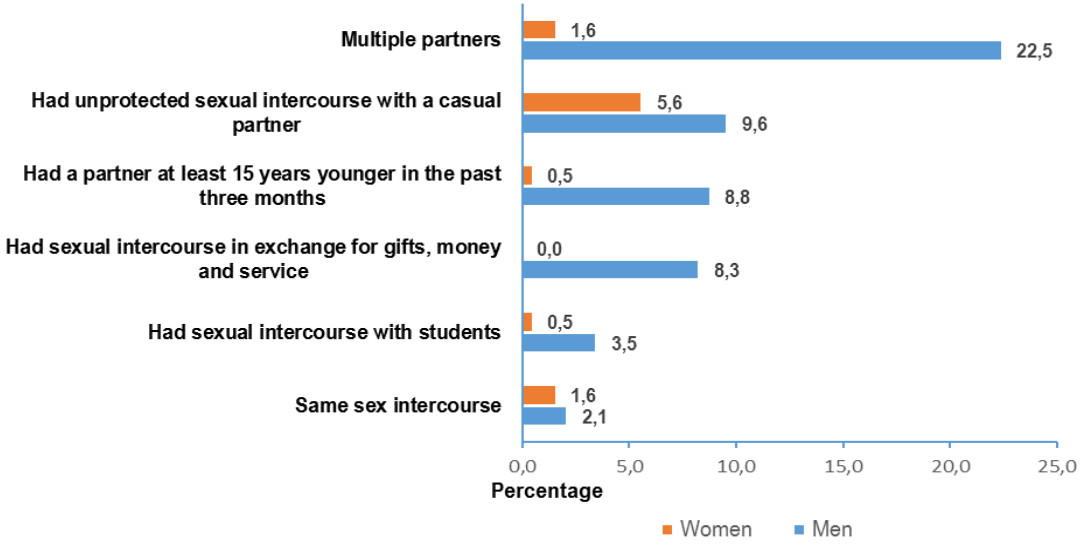

Figure 24: Reported sexual behaviors reported among school staff during the last three months

Significant differences existed between sexual behaviors reported by women and men (Figure 24). More men than women reported that they had at least two sexual partners in the last three months (22.5% versus 1.6%, p <0.001). A difference between men and women, of comparable magnitude, was revealed by the DHS-CI 2012, which reported that 33% of men with secondary education level and higher, and 6.5% of women with secondary education level and higher had at least two sexual partners in the past 12 months. The 2012 DHS-CI noted that this proportion is particularly high among polygamists (78%), whereas our study did not collect information to identify men in polygamous marriages.

In the last three months, 9.6% of men and 5.6% of women had unprotected sexual intercourse with a casual partner (p = 0.097). In addition, more men than women reported having sexual intercourse with: a partner at least 15 years younger (8.8% versus 0.5%, p <0.001) or with a student (3.5% versus 0.5, p = 0.027). No woman and 8.3% of men reported having exchanged sex for money, gift or service in the past three months.

Overall, 2.1% of the men and 1.6% of the women reported that they had sexual intercourse with a person of the same sex in the last three months.

The sexual behaviors of school staff were similar in the stratum without the LS program and the two combined strata with the LS program.

2. 4 Gender-based violence reported by school staff

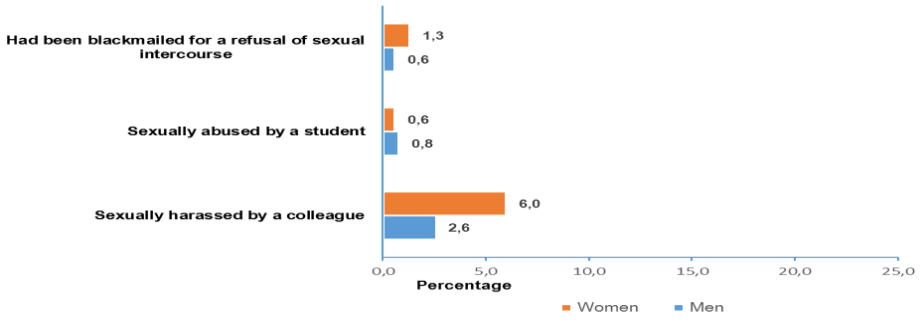

Figure 25: Reported sexual violence among school staff during the previous school year, by sex

Legend: percentage; women; men

More women than men reported having been sexually harassed by a colleague in the previous school year (6% versus 2.6%, p = 0.013). Overall, 0.7% of the school staff members (1.3% of women and 0.6% of men, p = 0.217) had been blackmailed by someone in their school to whom they refused sexual intercourse. In addition, 0.8% of men and 0.6% of women reported having been sexually abused by a student during the previous school year (Figure 26).

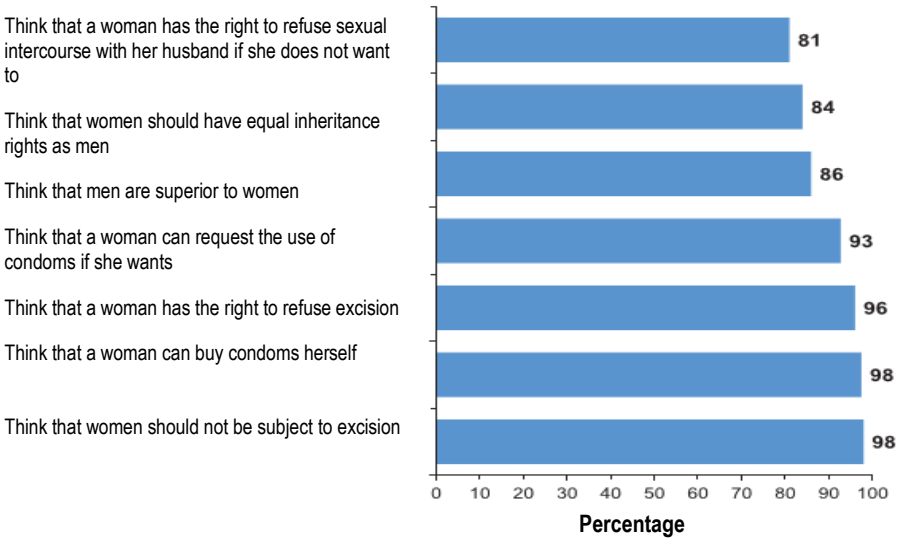

Figure 26: Reported attitudes about gender-based violence among school staff

Almost all the school staff members (98%) thought that women should not be subject to excision and 96% thought that a woman has the right to refuse excision. The proportion of men and women opposing excision practices was comparable. The 2012 DHS-CI reported that the majority of women and men with a secondary education level and higher were in favor of the abandonment of this practice (94% of women and 92% of men).

Overall, 98 % of the school staff members reported that a woman can buy condoms herself and 93 % that a woman can request the use of condoms if she wants. However, only 81% of the school staff members thought that a woman has the right to refuse sexual intercourse with her husband if she does not want to. This proportion was similar among men and women (81% of the men and 84% of the women, p = 0.369).

The proportion of the school staff members who thought that men are not superior to women was higher for women than for men (93% against 85%, p = 0.026). Similarly, more women than men reported that women should have equal inheritance as men (90% against 82%, p=0.015).

2. 5 Discrimination against PLHIV

Almost all the school staff members (99%) reported that a PLHIV should not be rejected (Table 8). However, only 89% of the school staff members would agree to be friend with a PLHIV and 70% would agree to use the same toilets with a PLHIV. The 2012 DHS-CI reported that 92% of women and 94% of men with secondary education level and higher reported that they would be willing to take care at home of a family member with AIDS. Finally, 12% of the school staff members thought that HIV infection is God's punishment for those having sex with just anyone.

Table 8: Reported attitudes with respect to discrimination against PLHIV

Attitudes with regards to discrimination against a PLHIV	Percentage (n=1092)
Think that a PLHIV should not be rejected (n = 1,077)	99
Would accept being friend with a PLHIV (n = 1,077)	89
Would accept to use the same toilets with a PLHIV (n = 989)	70
Witnessed a scene where a student in your school refused to shake another student's hand because s/he is infected with HIV (n = 1,084)	3
In your school, did a health worker tell you the identity of a PLHIV (n = 1,082)	2

A single indicator on discrimination against PLHIV differs according to the sampling strata. A higher proportion of school staff in the two strata with the LS program compared to staff in the stratum without no LS program reported that they would agree to share a meal with a PLHIV (93% versus 87%; p<0,001).

2. 6 Use of health services by school staff

More than a quarter of the school staff members reported having been tested for HIV and having received their results in the past 12 months (28% of women and 25% of men, p = 0.312; Figure 27). Overall, 4% reported having had sexually transmitted infections in the past 12 months, including 6% of women and 4% of men (p = 0.166). However, more women than men reported having had a genital problem in the past 12 months (17% against 8%, p <0.001).

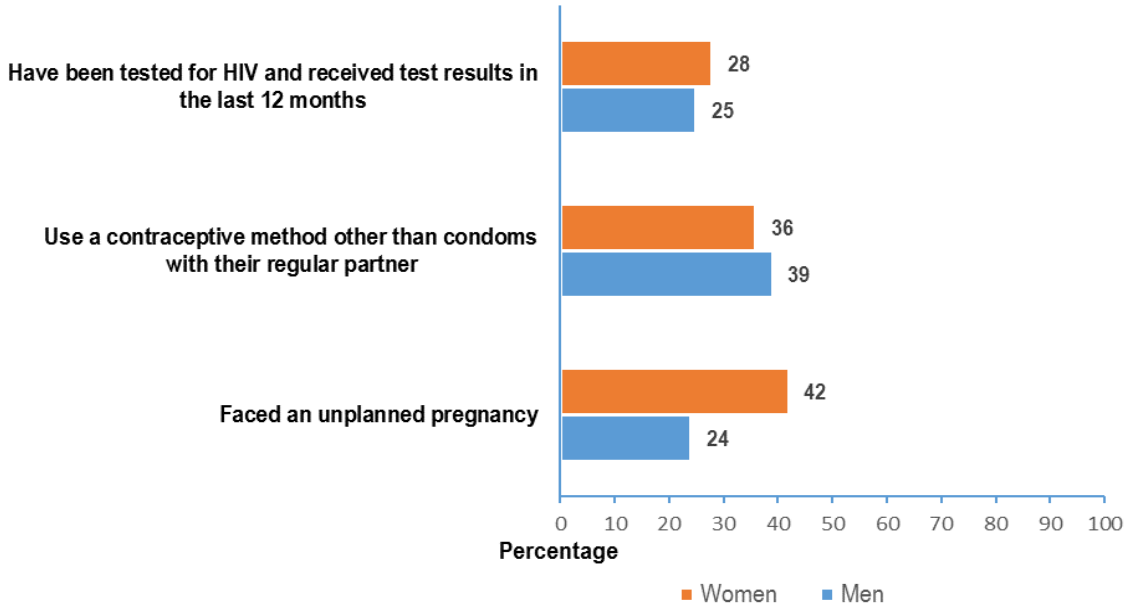

Figure 27: Reported use of health services among school staff member, by sex

More than a quarter of school staff members reported having been tested for HIV and having received their results in the past 12 months (28% of women and 25% of men: p = 0.312). 4% reported having sexually transmitted infections in the past 12 months, including 6% of women and 4% of men (p = 0.166). However, more women than men reported having a genital problem in the past 12 months (17% against 8%, p <0.001).

More women than men reported having faced an unplanned pregnancy (42% versus 24%, p <0.001). At the time of the survey, more than one third of both women and men used contraceptive methods other than condoms with their regular partners, while 36% of female school staff members reported using contraceptives other than condoms with their regular partners. The 2012 DHS-CI estimated that 18% of women with a secondary education level and higher, used these same contraceptive methods. During the past school year, 9% of men and 11% of women had received family planning services to prevent pregnancy.

Overall, 28% of the school staff members attended the infirmary of their school in the last 12 months, and 24% attended a school-based health center in the same period.

CONCLUSION

The Ministry of National Education and Technical Education (MENET) of Côte d'Ivoire, with the financial support of CDC/PEPFAR (2004-2013), conducted the MEN/PEPFAR project for 10 years through the implementation of the school-based "Life skills" program. The evaluation of this program highlighted the existence of sexual vulnerability among girls and boys because of their classmates and adults. Discriminatory attitudes towards PLHIV were reported by more than a quarter of the students and to a lesser extent, by school staff members. School staff had a good knowledge of HIV transmission and prevention modes, but students still have misconceptions about HIV transmission, particularly those in the regional schools. Many students, both girls and boys, reported negative attitudes towards women, even though a small proportion of the school staff members reported such attitudes. The proportion of sexually active students was moderate and the proportion of those with multiple sexual partnerships was low. However, condom use reported by students remained insufficient, especially in light of the fact that intergenerational sex was still prevalent. Multiple sexual partnerships were common among male school staff. Both women and men reported having unprotected sex.

Given the easy access to new information and communication technologies (television, internet ...), young people might involuntarily exposed to pornography. Past studies have suggested that young people's exposure to these images may have a negative impact on gender norms, since they reinforce the stereotypes of male authority and female subordination. Hence, teachers have a role to play in correcting the stereotypes of this industry and helping young people express their perceptions on this issue.

The study highlighted a dose-response effect between the intensity of the Life skills program implementation and the reduction of multiple sexual partnerships. A similar trend suggested that the program helped reduce the humiliations inflicted on students by school staff. A reduction of pregnancies in schools were recorded when the Life skills program was associated with extracurricular activities.

RECOMMENDATIONS

In order to consolidate the achievements of the school-based Life Skills program implementation and contribute to strategic decision-making, the following recommendations are proposed to the MENET:

- Consolidate the synergy between curricular activities (Life Skills) and extracurricular activities (Health Clubs);
- Mobilize resources for the continuation of the Life Skills program in all the schools in Côte d'Ivoire;
- Implement the sustainability plan for HIV/AIDS interventions in schools developed by the MEN/PEPFAR Project;
- Take ownership of and capitalize on the school-based Life Skills program;
- Integrate the 'Zero Pregnancy' Project into the school-based Life Skills program;
- Strengthen the Education in Human Rights and Citizenship (EDHC) program by building on the Life Skills program achievements.

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ANNEXES

Annex 1: QUESTIONNAIRE FOR STUDENTS AGED 15 – 24 YEARS

SECTION 1: IDENTIFICATION

Date of the survey: Day: Month: Year: 20

Name of school:……

Class identification code:……

Identification number:

SECTION 2: SOCIO-DEMOGRAPHIC CHARACTERISTICS (Write the number(s) corresponding to the correct answer(s) in the blank column on the right)			
Q200	What is your academic level? (Specify your current grade level) 7th grade 8th grade 9th grade 11th grade Twelfth grade	 5 4 3 1 0	
Q201	What is your sex? Male Female	 1 2	
Q202	What is your birth year of?		
Q203	Do you repeat your grade? No Yes	 0 1	
Q204	Are you attending the same school as last year? No Yes	 0 1	

SECTION 3: EXPOSURE TO STI, HIV AND PREGNANCY PREVENTION			
Q300	Did you take HIV/AIDS-related course last year? No Yes	 0 1	
Q301	Did you take HIV/AIDS-related course this year? No Yes	 0 1	
Q302	Is there a health club in your school? No Yes	 0 1	
Q303	Last year, did you discuss with your schoolmates about HIV/AIDS during school-based health club activities? No Yes Not applicable	 0 1 9	
Q304	This year, did you discuss with your schoolmates about HIV/AIDS during school-based health club activities? No Yes Not applicable	 0 1 9	
Q305	Last year, did you discuss with your schoolmates about forced marriages, excision, early pregnancies, sexual harassment or rape? No Yes	 0 1	
Q306	This year, did you discuss with your schoolmates about forced marriages, excision, early pregnancies, sexual harassment or rape? No Yes	 0 1	
SECTION 4: KNOWLEDGE ABOUT SEXUALLY TRANSMITTED INFECTIONS (STI) AND HIV/AIDS			
Q400	Do you think that sexually transmitted infections (STI) increase the risk of HIV transmission? No Yes Do not know	 0 1 9	
Q401	Do you think that a person can be infected several times by the same sexually transmitted infections? No Yes Do not know	 0 1 9	
Q402	Is it possible for a person infected with HIV to live for a long time? No Yes Do not know	 0 1 9	
Q403	When you look at a person, are you able to know that s/he is infected with HIV? No Yes Do not know	 0 1 9	
Q404	Is abstinence a way of preventing HIV?		

	No	0	
	Yes	1	
	Do not know	9	
Q405	Is having a single HIV-negative sexual partner a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q406	Is the systematic use of condoms a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q407	Is the choice of a healthy partner a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q408	Is HIV transmitted by mosquito bites?		
	No	0	
	Yes	1	
	Do not know	9	
Q409	Is HIV transmitted by sharing a meal with a person infected with HIV or AIDS?		
	No	0	
	Yes	1	
	Do not know	9	
Q410	Is HIV transmitted by pricking oneself with a syringe already used by another person?		
	No	0	
	Yes	1	
	Do not know	9	
Q411	Is HIV transmitted from mother to child (during pregnancy, childbirth or breastfeeding)?		
	No	0	
	Yes	1	
	Do not know	9	
Q412	Is HIV transmitted through witchcraft?		
	No	0	
	Yes	1	
	Do not know	9	
Q413	Is HIV transmitted by saliva?		
	No	0	
	Yes	1	
	Do not know	9	
Q414	Is HIV transmitted through unprotected sex?		
	No	0	
	Yes	1	
	Do not know	9	
Q415	How do you know if you are infected with HIV?		
	By buying a test in a pharmacy	1	
	By visiting your doctor for an examination	2	
	By getting tested for HIV	3	
	By getting tested for syphilis at hospital	4	
	Do not know	9	

Q416	Can an HIV-infected person receive drugs that would help him or her live a longer healthy life? No Yes Do not know	 0 1 9	
Q417	Do you think that an HIV-infected person can be cured? No Yes Do not know	 0 1 9	
SECTION 5 : SEXUAL BEHAVIORS			
Q500	Have you ever had sexual intercourse? *(In this questionnaire, sexual intercourse refers to an anal or vaginal penetration)* No Yes No answer	 0 1 9	
Q501	If yes, at what age did you have your first sexual intercourse?		
Q502	If yes, with whom did you have your first sexual intercourse? A student A member of your family A teacher A member of administrative staff A guardian A coach Other Do not know	 1 2 3 4 5 6 7 9	
Q503	Did you have sexual intercourse in the past three months? No Yes	 0 1	
Q504	If yes, how many partners did you have in the past three months?		
Q505	In the last three months, with whom did you have sex? Man Woman Both sexes No answer	 1 2 3 9	
Q506	In the past three months, did you have sexual intercourse in exchange for money, gifts, marks, or services? No Yes No answer	 0 1 9	
Q507	In the past three months, did you have sexual partners who were at least 10 years older than you? No Yes Do not know	 0 1 9	
Q508	During the past three months, did you have a regular sexual partner (official)? No Yes	 0 1	
Q509	If yes, what is his/her occupation? A student A teacher A member of administrative staff	 1 2 3	

	A guardian A driver A salesman/trader Other Do not know	4 5 6 7 9	
Q510	In the past three months, did you use a condom every time you had sex with all your partners? No Yes Do not know	 0 1 9	
Q511	Did you use a condom at last sexual intercourse? No Yes Do not know/Not applicable	 0 1 9	
Q512	During the past year, did you have a sexually transmitted infection (STI)? No Yes Do not know	 0 1 9	
Q513	• *For girls:* have you ever been pregnant? • *For boys*: have you ever gotten one of your sexual partners pregnant? No Yes	 0 1	
Q514	• *For girls:* do you use a contraceptive method (apart from condoms) to avoid getting pregnant? • *For boys:* Does your girlfriend use a contraceptive method (apart from condoms) to avoid getting pregnant? No Yes Do not know	 0 1 9	
Q515	In the past 12 months, did you drink alcohol? No Yes Do not know	 0 1 9	
Q516	In the past 12 months, did you ever use drugs? No Yes Do not know	 0 1 9	
Q517	In the past 12 months, did you watch pornographic films /videos / photos? No Yes	 0 1	

SECTION 6: ATTITUDES AND BEHAVIORS TOWARDS STIGMATIZATION AND DISCRIMINATION			
Q600	Would you accept to be friend with a person living with HIV? No Yes Do not know	 0 1 9	
Q601	Would you accept to sit next to a person living with HIV? No Yes Do not know	 0 1 9	
Q602	Would you accept to share a meal with a person living with HIV? No Yes Do not know	 0 1 9	
Q603	Would you agree to play with a person living with HIV? No Yes Do not know	 0 1 9	
Q604	Would you agree to play sports with a person living with HIV? No Yes Do not know	 0 1 9	
Q605	Would you use the same toilet with a person living with HIV? No Yes Do not know	 0 1 9	
Q606	Do you think that HIV infection is God's punishment for people having sex with anyone? *(Anyone refers to an unknown person or a prostitute)* No Yes Do not know	 0 1 9	
Q607	Do you think a person living with HIV should be rejected by others? No Yes Do not know	 0 1 9	
Q608	In your school, did you witness a scene where a student was insulted by other students because s/he is infected with HIV? No Yes Do not know	 0 1 9	
Q609	In your school, did you witness a scene where a student was insulted by a teacher or a member of administrative staff because s/he is infected with HIV? No Yes Do not know	 0 1 9	
Q610	In your school, did you witness a scene where a student refused to		

	shake another student's hand because s/he is infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q611	In your school, did you witness a scene where a teacher or a member of administrative staff refused to shake another student's hand because s/he is infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q612	In your school, did you witness a scene where a teacher or school staff member expel a student from classroom by saying that this student is infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q613	In your school, did you witness a scene where a health provider from the school infirmary refused to provide care to a student infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q614	In your school, did a health provider (doctor, nurse, mid-wife, auxiliary nurse) tell you the identity of a person infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q615	In your school, do you know a student who is infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
SECTION 7 : KNOWLEDGE, ATTITUDES AND PERCEPTIONS ON GENDER			
Q700	Are men superior to women?		
	No	0	
	Yes	1	
	Do not know	9	
Q701	Should women be given more opportunities / chances of success than men?		
	No	0	
	Yes	1	
	Do not know	9	
Q702	Should women be excised?		
	No	0	
	Yes	1	
	Do not know	9	
Q703	Does a woman have the right to refuse excision?		
	No	0	
	Yes	1	
	Do not know	9	
Q704	Is a parent entitled to choose the husband or wife of his child?		
	No	0	
	Yes	1	

	Do not know	9	
Q705	Should a woman ask her husband's permission to see a doctor?		
	No	0	
	Yes	1	
	Do not know	9	
Q706	Should a woman ask her husband's permission to use contraceptive methods to prevent pregnancy?		
	No	0	
	Yes	1	
	Do not know	9	
Q707	In your school, did a student touch your intimate parts (sex, breast, buttocks and thighs) when you did not want to, during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q708	In your school, did a professor or a member of the administration touch your intimate parts (sex, breast, buttocks and thighs) during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q709	In your school, did a student force you to have sex when you did not want to, during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q710	In your school, did a teacher or a member of the administration have sexual intercourse with you, during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q711	In your school, did a professor or a member of the administration force you to have sex, during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q712	In your school, did a professor or a member of the administration insult, belittle or humiliate you during the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q713	In your school, did a professor or a member of the administration slap, hit, pinch, push or fight you in the previous school year?		
	No	0	
	Yes	1	
	No answer	9	
Q714	Did your guardian threaten you to have sexual intercourse with him/her, in the previous school year?		
	No	0	
	Yes	1	
	I did not have a guardian last year	2	
	No answer	9	

Q715	Did your guardian have sex with you when you did not want to? No Yes I did not have a guardian No answer	 0 1 2 9	
Q716	Did a teacher offer you good marks in exchange for sex, during the previous school year? No Yes No answer	 0 1 9	
Q717	Do you think that a husband should beat his wife to educate or discipline her? No Yes No answer	 0 1 9	
Q718	Do you think that a woman can refuse to have sex with her husband when she does not want to? No Yes No answer	 0 1 9	
Q719	Do you think that a girl can ask her boyfriend to use a condom if she knows that he has other partners? No Yes No answer	 0 1 9	
Q720	Do you think that a girl can ask her boyfriend to use a condom when she wants? No Yes No answer	 0 1 9	
Q721	Do you think that a girl can buy condoms herself? No Yes No answer	 0 1 9	
Q722	Do you think that a girl should ask her boyfriend's permission before buying condoms? No Yes No answer	 0 1 9	
Q723	Do you think a boy should ask his girlfriend's permission before buying condoms? No Yes No answer	 0 1 9	

SECTION 8: USE OF HEALTH SERVICES			
Q800	During the previous school year, did you go to your school infirmary or school-based health center, for health problems? No Yes	 0 1	
Q801	During the previous school year, did you participate in the awareness-raising sessions of your school health club?		

	No	0	
	Yes	1	
	No health club in my school	2	
Q802	During the previous school year, did you take part in the awareness-raising sessions of the gender-based violence monitoring committee?		
	No	0	
	Yes	1	
	No GBV monitoring committee in my school	2	
Q803	Have you ever been tested for HIV?		
	No	0	
	Yes	1	
	No answer	9	
Q804	Did you retrieve the results of your HIV test?		
	No	0	
	Yes	1	
	Never been tested for HIV	9	
Q805	When did you receive your last HIV test results?		
	Never received my HIV test results	1	
	In the past 12 months	2	
	For more than 12 months	3	
	Do not know	9	
Q806	Did you ever have genital problems?		
	No	0	
	Yes	1	
	Do not know	9	
Q807	The last time you had genital problems, did you go to hospital?		
	No	0	
	Yes	1	
	No answer	9	
Q808	Did you receive reproduction health and family planning services to prevent pregnancy?		
	No	0	
	Yes	1	
Q809	Did you receive family planning services for another reason?		
	No	0	
	Yes	1	

Annex 2: QUESTIONNAIRE FOR SCHOOL STAFF

SECTION 1: IDENTIFICATION

Date of the survey: Day: Month: Year: 20

Name of school:……

Identification number:

SECTION 2: SOCIO-DEMOGRAPHIC CHARACTERISTICS			
Q200	What is your occupation? Teacher Supervisor Health provider Other administrative staff	 1 2 3 4	
Q201	What is your sex? Male Female	 1 2	
Q202	How old are you?		
Q205	What is your marital status? Married Non-marital relationship Single Divorced Widow/widower	 1 2 3 4 5	

SECTION 4: KNOWLEDGE ABOUT SEXUALLY TRANSMITTED INFECTIONS (STI) AND HIV/AIDS			
Q400	Do you think that sexually transmitted infections (STI) increase the risk of HIV transmission? No Yes Do not know	 0 1 9	
Q401	Do you think that a person can be infected several times by the same sexually transmitted infections? No Yes Do not know	 0 1 9	
Q402	Is it possible for a person infected with HIV to live for a long time? No Yes Do not know	 0 1 9	
Q403	When you look at a person, are you able to know that s/he is infected with HIV? No	 0	

	Yes	1	
	Do not know	9	
Q404	Is abstinence a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q405	Is having a single HIV-negative sexual partner a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q406	Is the systematic use of condoms a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q407	Is the choice of a healthy partner a way of preventing HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q408	Is HIV transmitted by mosquito bites?		
	No	0	
	Yes	1	
	Do not know	9	
Q409	Is HIV transmitted by sharing a meal with a person infected with HIV or AIDS?		
	No	0	
	Yes	1	
	Do not know	9	
Q410	Is HIV transmitted by pricking oneself with a syringe already used by another person?		
	No	0	
	Yes	1	
	Do not know	9	
Q411	Is HIV transmitted from mother to child (during pregnancy, childbirth or breastfeeding)?		
	No	0	
	Yes	1	
	Do not know	9	
Q412	Is HIV transmitted through witchcraft?		
	No	0	
	Yes	1	
	Do not know	9	
Q413	Is HIV transmitted by saliva?		
	No	0	
	Yes	1	
	Do not know	9	
Q414	Is HIV transmitted through unprotected sex?		
	No	0	
	Yes	1	
	Do not know	9	
Q415	How do you know if you are infected with HIV?		
	By buying a test in a pharmacy	1	
	By visiting your doctor for an examination	2	

	By getting tested for HIV	3	
	By getting tested for syphilis at hospital	4	
	Do not know	9	
Q416	Can an HIV-infected person receive drugs that would help him or her live a longer healthy life?		
	No	0	
	Yes	1	
	Do not know	9	
Q417	Is it possible for an HIV-positive person to become HIV-negative again?		
	No	0	
	Yes	1	
	Do not know	9	
Q418	Do you think that the risk of HIV infection can be minimized by reducing the number of sexual partners?		
	No	0	
	Yes	1	
	Do not know	9	
Q419	Do you think that the risk of HIV infection can be reduced by taking antibiotics before or after sex?		
	No	0	
	Yes	1	
	Do not know	9	
Q420	Can AIDS virus be transmitted from mother to child during breastfeeding?		
	No	0	
	Yes	1	
	Do not know	9	

SECTION 5 : SEXUAL BEHAVIORS			
Q504	How many partners did you have in the past three months?		
Q505	What was your partner's sex?		
	Male	1	
	Female	2	
	Both sexes	3	
Q506	In the past three months, did you give money, gifts, marks, or services in exchange for sexual intercourse?		
	No	0	
	Yes	1	
	No answer	9	
Q507	In the past three months, did you have sexual partners at least 15 years younger than you?		
	No	0	
	Yes	1	
	Do not know	9	
Q508	During the past three months, did you have regular sexual partner(s)?		
	No	0	
	Yes	1	
	No answer	9	
Q519	In the past three months, did you have sexual intercourse with a student from your school?		

	No	0	
	Yes	1	
	No answer	9	
Q520	In the past three months, did you use a condom every time you had sex with all your casual partners (partners other than your regular partner)?		
	No	0	
	Yes	1	
	No casual partners	3	
	No answer	9	
Q521	Did you use a condom at last sexual intercourse with a casual partner?		
	No	0	
	Yes	1	
	No casual partners	3	
	No answer	9	
Q512	During the past year (12 past months), did you have a sexually transmitted infection (STI)?		
	No	0	
	Yes	1	
	Do not know	9	
Q512a	If yes, who did you first see when you experienced the first symptoms of a sexually transmitted infection (STI)?		
	No one	0	
	Doctor in a public health center	1	
	Doctor in a private clinic	2	
	Nurses/Mid-wife	3	
	Pharmacist	4	
	Traditional practitioner/medicines	5	
	Street vendor of medicines	6	
	Other	7	
	Do not know	9	
Q513	• *For women*: have you ever been pregnant when you did not want to? • *For men:* have you ever gotten one of your sexual partners pregnant when you did not want to?		
	No	0	
	Yes	1	
	Do not know	9	
Q514	Do you use a contraceptive method with your regular partner, apart from condoms?		
	No	0	
	Yes	1	
	Do not know	9	
Q515	In the past 12 months, did you drink alcohol?		
	No	0	
	Yes	1	
	No answer	9	
Q516	In the past 12 months, did you ever use drugs?		
	No	0	
	Yes	1	
	No answer	9	
Q518	In the past 12 months, did you use injecting drugs?		

	No Yes Do not know	0 1 9	

SECTION 6: ATTITUDES AND BEHAVIORS TOWARDS STIGMATIZATION AND DISCRIMINATION			
Q600	Would you accept to be friend with a person living with HIV? No Yes Do not know	 0 1 9	
Q601	Would you accept to sit next to a person living with HIV? No Yes Do not know	 0 1 9	
Q602	Would you accept to share a meal with a person living with HIV? No Yes Do not know	 0 1 9	
Q605	Would you use the same toilet with a person living with HIV? No Yes Do not know	 0 1 9	
Q606	Do you think that HIV infection is God's punishment for people having sex with anyone (unknown persons, prostitutes, persons who do not know their HIV status, etc.)? No Yes Do not know	 0 1 9	
Q607	Do you think a person living with HIV should be rejected by others? No Yes Do not know	 0 1 9	
Q506	In your school, did you witness a scene where a student was insulted by an adult because s/he is infected with HIV? No Yes Do not know	 0 1 9	
Q608	In your school, did you witness a scene where an adult expel a student from classroom or school because this student is infected with HIV? No Yes Do not know	 0 1 9	
Q610	In your school, did you witness a scene where a student refused to shake another student's hand because s/he is infected with HIV? No Yes Do not know	 0 1 9	
Q613	In your school, did you witness a scene where a health provider from the school infirmary refused to provide care to a student		

	because s/he is infected with HIV?		
	No	0	
	Yes	1	
	Do not know	9	
Q614	In your school, did a health provider (doctor, nurse, mid-wife, auxiliary nurse) tell you the identity of a person infected with HIV?		
	No	0	
	Yes	1	
	No answer	9	
SECTION 7 : KNOWLEDGE, ATTITUDES AND PERCEPTIONS ON GENDER			
Q700	Do you think that men are superior to women?		
	No	0	
	Yes	1	
	Do not know	9	
Q701	Should women be given more opportunities / chances of success than men?		
	No	0	
	Yes	1	
	Do not know	9	
Q724	Should women have equal inheritance as men?		
	No	0	
	Yes	1	
	Do not know	9	
Q702	Should women be excised?		
	No	0	
	Yes	1	
	Do not know	9	
Q703	Does a woman have the right to refuse excision?		
	No	0	
	Yes	1	
	Do not know	9	
Q704	Is a parent entitled to choose the husband or wife of his child?		
	No	0	
	Yes	1	
	Do not know	9	
Q717	Do you think that a husband should beat his wife to educate or discipline her?		
	No	0	
	Yes	1	
	No answer	9	
Q718	Do you think that a woman can refuse to have sex with her husband when she does not want to?		
	No	0	
	Yes	1	
	Do not know	9	
Q719	Do you think that a woman or a girl can ask her husband or boyfriend to use a condom if she knows that he has other partners?		
	No	0	
	Yes	1	
	Do not know	9	
Q720	Do you think that a woman can request the use of a condom when she wants?		

	No	0	
	Yes	1	
	No answer	9	
Q721	Do you think that a woman can buy condoms?		
	No	0	
	Yes	1	
	Do not know	9	
Q722	Do you think that a woman should ask her husband's permission before buying condoms?		
	No	0	
	Yes	1	
	Do not know	9	
Q723	Do you think a man should ask his wife's permission before buying condoms?		
	No	0	
	Yes	1	
	Do not know	9	
Q725	During the previous school year have you ever been sexually harassed by a colleague at school?		
	No	0	
	Yes	1	
	No answer	9	
Q711	During the previous school year have you been sexually abused (raped) by a student at school?		
	No	0	
	Yes	1	
	No answer	9	
Q726	During the previous school year have you been sexually abused (raped) by a colleague at school?		
	No	0	
	Yes	1	
	No answer	9	
Q727	During the previous school year, have you been offered sex by anyone at school in exchange for money, gifts or services?		
	No	0	
	Yes	1	
	No answer	9	
Q728	During the previous school year, did anyone threaten or blackmail you at school because you refused to have sex with him/her?		
	No	0	
	Yes	1	
	No answer	9	

SECTION 8: USE OF HEALTH SERVICES			
Q800	During the previous school year, did you go to your school infirmary, for health problems?		
	No	0	
	Yes	1	
	No answer	9	
Q810	During the previous school year, did you go to your school health center, for health problems?		
	No	0	

	Yes No answer	1 9	
Q811	If there is a school health committee in your school, did you participate in the awareness-raising sessions of this committee during the previous school year? No Yes No school health committee in my school	 0 1 9	
Q803	Have you ever been tested for HIV? No Yes No answer	 0 1 9	
Q804	Did you receive the results of your HIV test? No Yes No answer	 0 1 9	
Q805	When did you receive your last HIV test results? Never received my HIV test results In the past 12 months For more than 12 months Do not know	 1 2 3 9	
Q812	During the last 12 months, did you ever have genital problems? No Yes No answer	 0 1 9	
Q807	The last time you had genital problems, did you go to hospital? No Yes I have never had genital problems	 1 2 3	
Q813	During the last 12 months, did you receive family planning services to prevent pregnancy? No Yes No answer	 0 1 9	

END OF THE QUESTIONNAIRE

AUTHORS

This report was compiled by a team of FHI 360 consisting of:

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