



Status of Drugs and Substance Abuse among Primary School Pupils in Kenya

NATIONAL AUTHORITY FOR THE CAMPAIGN AGAINST ALCOHOL AND DRUG ABUSE (NACADA)

and

KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS (KIPPRA)

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Research and Analysis (KIPPRA)**

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NACADA in Brief

The National Authority for the Campaign against Alcohol and Drug Abuse (NACADA) is a State Corporation under the Ministry of Interior and Coordination of National Government. NACADA's mission is to coordinate a multi-sectoral campaign against alcohol and drug abuse in Kenya. The mission is achieved through implementation of evidence-based programs to improve prevention, control and mitigation of alcohol and drug abuse related harm. NACADA in collaboration with other lead agencies facilitates, conducts and promotes research and dissemination of findings on data on alcohol and drug abuse and serves as the repository of such data.

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EXECUTIVE SUMMARY

Introduction: Studies in Kenya indicate that drugs and substance abuse among young people in learning institutions is a growing social and public health problem. Most of these studies have, however, focused on young persons who are in high school or in higher levels of education (or older than 14 years). This presents a challenge as drug and substance abuse may begin at an earlier age. This scenario has resulted in limited evidence on drugs and substance abuse among primary school pupils. This survey therefore endeavors to assess the level of knowledge, attitudes and use of drugs and substances of abuse among primary school pupils in Kenya.

Methodology: A sample of pupils was drawn from 10 stratified regions across the country, broadly divided into: Nairobi, Central, Lower Eastern, Upper Eastern, North Eastern, Coast, Upper Rift, Lower Rift, Nyanza and Western. From the identified regions, 25 representative counties were randomly selected. Using a sampling frame of schools registered with the Ministry of Education, Science and Technology, the schools were categorized into boys, girls, mixed boarding and mixed day schools. A total of 3,307 pupils from 177 randomly selected primary schools were interviewed. The participating pupils were drawn from class 5–8 cohort.

Findings: Overall, the survey shows that pupils are fairly knowledgeable on the different drugs and substances of abuse. Tobacco, alcohol and bhang/cannabis were the most widely known drugs with a prevalence of 89.3%, 83.8% and 77.8%, respectively. The drugs and substances of abuse reported as most readily available to primary school pupils were tobacco (41.9%), prescription drugs (27.8%), alcohol (25.9%) and miraa/muguka (23.1%).

When asked if they were aware that their school mates and friends were abusing drugs and substances of abuse, the findings show that tobacco (16.0%), prescription drugs (13.8%), miraa/muguka (10.6%) and alcohol (9.6%) had the highest proportion of pupils reporting in the affirmative.

The pupils were also asked to mention the period when drugs and substances of abuse were being used in schools. Data shows that drugs and substances of abuse were more likely to be used during school holidays (30.0%); on their way home from school (22.0%); during weekends (21.0%); and during inter-school competitions (20.0%).

The pupils were also asked to mention the possible sources of drugs and substances of abuse. The most commonly mentioned sources of drugs and substances of abuse included kiosks or shops near school (28.6%), bar near school (25.7%), friends (19.3%), bought from other pupils (13.7%), and school workers (13.6%).

The assessment also sought to determine the median age of onset of various drugs and substances of abuse. From the data, the average median age of onset of at least one drug or substance of abuse was 11 years while lowest reported age of onset to drugs and substances of abuse was 4 years.

The pupils were asked to mention the drugs and other substances of abuse that they have ever used in their lifetime (ever use). Data shows that 20.2 per cent of primary school pupils have ever used at least one drug or substance of abuse in their lifetime, 10.4 per cent have ever used prescription drugs in their lifetime, 7.2 per cent have ever used alcohol in their lifetime, 6.0 per cent have ever used tobacco in their lifetime, 3.7 per cent have ever used miraa/muguka in their lifetime and 1.2 per cent have ever used bhang/ cannabis in their lifetime.

The pupils were also asked to mention the drugs and other substances of abuse that they have used in the last 30 days (current use). Findings show that 16.9 per cent of primary school pupils were currently using at least one drug or substance of abuse, 7.2 per cent were currently using prescription drugs, 3.2 per cent were currently using tobacco, 2.6 per cent were currently using alcohol, 2.3 per cent were currently using miraa/muguka, 1.2 per cent were currently using inhalants and 1.2 per cent were currently using heroin. Current use of bhang/cannabis and cocaine among primary school pupils was less than 1.0 per cent.

The survey also showed that drugs and substance abuse was significantly associated with class repetition and decline in academic performance. The data also shows that pupils who use at least one drug or substance of abuse are 18 per cent more likely to repeat a class. This study also found that substance abuse was associated with a 6.4 per cent decline in academic performance. Further, the study sought to determine risk factors associated with drugs and substance abuse among primary school pupils in Kenya. The findings showed that pupils from families where one or both parents/guardians use drugs or substances of abuse were more likely to use drugs or substances of abuse; pupils with knowledge of a friend or schoolmate who was using drugs or substances of abuse were more likely to use drugs or substances of abuse; pupils who were accompanying parents to events where alcohol or any drug was being served were more likely to use drugs or substances of abuse; and pupils who reported that alcohol was available in their homes were more likely to use drugs or substances of abuse.

Based on the findings of this assessment, the following recommendations are made:

- (i) NACADA in collaboration with other relevant stakeholders could target primary schools with sensitization on knowledge of drugs and substances of abuse and their potential harm. Further, there is need to enhance the anti-smoking and anti-drinking attitudes especially at the lower grades to counter their relatively higher admiration to the usage of these drugs and substances of abuse.
- (ii) NACADA in collaboration with the county governments, Ministry of Health and other relevant enforcement agencies need to enhance efforts towards lowering access and availability of drugs and substances of abuse among primary school pupils. These efforts include:
 - (a) Enforcement of guidelines on establishment/construction of structures (including business premises and bars) near schools;
 - (b) Enforcement of the ban on sale of cigarettes in single sticks;
 - (c) Sensitization of parents/guardians on the risks of keeping drugs at home; being accompanied to drug consumption facilities by underage children; and exposure of under-age children in the sale of drugs and substances of abuse.
- (iii) NACADA in collaboration with the Ministry of Education need to strengthen life skills programmes for children to promote abstinence and delaying of drug and substance abuse, and in particular the assertiveness and refusal skills.
- (iv) NACADA in collaboration with the Ministry of Education and other relevant stakeholders need to enhance and advocate for protective factors in public primary schools. These include:
 - (a) Streamlining of the policy environment in schools by promoting the establishment of institutional-based drugs and substance abuse prevention policies.
 - (b) Setting up or kick-starting functional guidance and counselling departments with well trained teachers.
 - (c) Establishment of sobriety clubs in schools with clearly defined guidelines of operation.
- (v) The Pharmacy and Poisons Board needs to streamline the operations of pharmaceutical drugs' selling outlets by developing and enforcing strict guidelines on distribution, storage and sale of prescription drugs in Kenya.

- vi) NACADA in collaboration with the Ministry of Education and other relevant stakeholders need to facilitate establishment of a legal framework and structures for introduction of drug testing in schools.

ABBREVIATIONS AND ACRONYMS

DALY	Disability-Adjusted Life years
FGD	Focused Group Discussion
GATS	Global Adult Tobacco Survey
KAPP	Knowledge, Attitude, Perceptions and Practices
KDHS	Kenya Demographic and Health Survey
KIHBS	Kenya Integrated Household Budget Survey
KII	Key Informant Interview
KIPPRA	Kenya Institute for Public Policy Research and Analysis
MDAs	Ministries Departments and Agencies
NACADA	National Authority for the Campaign Against Alcohol and Drug Abuse
Std	Standard
TORs	Terms of Reference



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PART I: STUDY CONTEXT AND METHODOLOGY

1. INTRODUCTION

1.1 Background

Drugs and substances of abuse are either natural or synthetic chemical substances, which when taken alter the normal physiological, mental and emotional functioning of a human body. Drugs or substance abuse is the use of chemical substances compulsively and excessively usually leading to addiction or inability to control the use of the substance. Some of the commonly abused drugs globally and in Kenya are alcohol, tobacco, bhang (marijuana), miraa (khat) and psychotropic drugs.

Drugs and substance abuse is a growing socio-economic challenge that affects many societies across the globe. The challenge has particularly adversely impacted on young persons, families and communities. Some of the social effects of drug use and substance abuse include: emotional damage, anti-social behaviour, brain damage, and death. Economically, drugs impact adversely on individual productivity, leads to dependence and exacerbate poverty. Abuse of drugs and substances is associated with declines in consumption of essential goods and services such as education and health. Consequently, drug use and substance abuse tend to hamper attainment of development goals.

At the school level, use of drugs and substances of abuse among pupils impacts education processes and outcomes negatively. Drugs and substances of abuse is associated with poor academic performance, class repetition and may result in increased school dropout rates. The effects of drugs and substances of abuse on academic performance may be through several channels, including its negative impacts on overall health and cognitive ability. As an example, long term consumption of alcohol can lead to lowered levels of mental or physical function. Drugs and substances of abuse has also been associated with non-conducive learning environments. Pupils abusing drugs are more likely to engage in activities that disrupt learning, such as violent behaviour and arson—resulting in damage and or loss of assets and lives. Drugs and substances are also known to result in low self-esteem and, on aggregate, impact negatively on the quality of education delivery and attainment. Drug use may also increase risky sexual behaviours, leading to increased exposure to HIV/AIDs and other sexually transmitted diseases.

In Kenya, drugs and substances of abuse among young people in learning institutions has been a growing social and public health problem. In 2010, NACADA observed that learning institutions had become a hub for drug sale and consumption, with both licit and illicit dealers targeting pupils for recruitment into the business. The substances were being sneaked into schools without detection by school authorities since they were mixed with juice and other confectionaries.

Recognizing the threats posed by drugs and substances of abuse, the Government of Kenya has put in place legal and institutional frameworks within which the problem can be addressed. With respect to legal frameworks, the government ratified two major United Nations Conventions on Narcotics Drugs and Psychotropic Substances in its quest to protect its citizens from drugs and substances of abuse. These include the single Convention on Narcotics Drugs (1961) and the Convention against Illicit Trafficking on Narcotic Drugs and Psychotropic Substances (1998). In 1994, the government enacted a new anti-drug law, the Narcotics and Psychotropic Substances Control Act.

To reduce alcohol abuse in the country, the government has enacted the Alcoholic Drinks Control Act 2010 which aims to regulate production, sale and consumption of alcohol. The Alcoholic Drinks Control Act of 2010 came into operation on 22nd November 2010 and repealed the Chang'aa Prohibition Act (Cap 70) and the Liquor Licensing Act (Cap 121). The objective of the Act was to provide a law for the control of production, manufacture, sale, labeling, promotion, sponsorship and consumption of alcoholic drinks to protect the health of individuals, protect the consumers of alcoholic drinks from misleading and deceptive inducements, protect the health of persons under the age of 18 years, inform and educate the public on health effects of alcohol abuse, adopt and implement measures to eliminate illicit trade in alcohol, such as smuggling, promote and provide for treatment and rehabilitation programmes, and promote research and dissemination of relevant information.

The government has also enacted the Tobacco Control Act of 2007 which aims to control the devastating health, social, and economic effects of tobacco use and exposure to tobacco smoke on individuals and families. Other laws, strategies and policies aimed at regulation, sale and consumption of alcohol and drugs include: The Dangerous Drugs Act, Cap 245; the Kenya National Drug Policy (Ministry of Health, 1994); and the National Strategy on Prevention, Control and Mitigation of Alcohol and Drug Abuse in Kenya 2007-2017. The Ministry of Education has infused alcohol and drug abuse in the school curriculum and trained and designated guidance and counselling teachers in schools. Other interventions include life skills and awareness campaigns.

Institutional frameworks include: The National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) to coordinate a multi-sectoral campaign against drug abuse in Kenya, and the Kenya Anti-Narcotic Unit. These institutions require research that is efficient and accessible to inform evidence-based interventions.

Despite the growing demand for data, there have been studies on the status and prevalence of drugs and substances of abuse and its association with risk factors among primary school pupils. Previous studies have targeted older cohorts and more so those in high schools, colleges and universities. As a result, there has been limited evidence on knowledge of learners, especially primary school pupils, about drug use and substance abuse. Little is known about primary school pupils: age for first drug experimentation, prevalence, drug refusal skills, assertiveness, self-control and influence of parenting on drug use and substance abuse.

Owing to these gaps, NACADA commissioned KIPPRA to determine the prevalence, knowledge, attitudes and practices of drugs and substances of abuse among primary school pupils. The broad objective of this study was to conduct an assessment on knowledge, attitudes and practices of drugs and substances of abuse among public primary school pupils in Kenya. The specific objectives include, to: i) examine the knowledge and attitudes of drugs and substance abuse among primary school pupils in Kenya; ii) evaluate the extent of availability and access to drugs and substances of abuse among primary school pupils in Kenya; iii) determine the prevalence of drugs and substance abuse among primary school pupils in Kenya; iv) document the risks and protective factors associated with drugs and substances of abuse among primary school pupils in Kenya; and v) establish the extent of drug refusal skills, assertiveness skills, relaxations skills, self-control skills, and influence of parenting skills among primary school going age pupils.

1.2 Education Sector Responses to Drugs and Substance of Abuse among Young People in Kenya

Several policy measures have been put in place by various MDAs to curtail drug use and substance abuse in schools. As an example, the Ministry of Education (and the Kenya Institute of Curriculum Development) has integrated drug education components in the existing school curriculum. Subjects such as social studies, religious education (Christian Religious Education, Islamic Religious Education and Hindu Religious Education); and school extra-curricular activities such as drama, music, physical education and sports have incorporated

items on drug and substance abuse in the syllabus for different classes. Even so, in a review of the preceding curriculum, Gacicio (2004) concluded that the syllabus content on drugs and substance abuse only provided an overview rather than an in-depth consideration of the drug issue(s).

The Ministry of Education also emphasizes provision of training in drug education to heads of schools, teachers and school inspectors through in-service courses. The main objective is to create awareness of the dangers of drug abuse and its consequences, and to mobilize school children to participate and take a leading role in drug and alcohol issues (Mutumi, 2013). In addition, it also aims to encourage teachers to be knowledgeable about the dangers of drugs, to increase their capacity to intervene, including through counseling and to prepare materials for drug education. The government, through the Ministry of Education also encourages the provision of guidance and counseling services in schools to help curb drug abuse and other problems that face pupils. This is in line with the recommendations of the Ominde and Gachathi Report (Mutumi, 2013).

Primary and secondary schools have also put in place various interventions to address the problem of drug and substance abuse among pupils. One such intervention is the peer education programme. The peer education programme aims at reducing irresponsible sexual behaviour, unwanted pregnancies, sexually transmitted infections (STIs) including HIV/AIDS, and control of drug abuse. Through this programme, pupils are trained to promote responsible behaviour among their peers. Some activities carried out in peer counseling include showing videos, follow-up discussions, counseling and public lectures.

Co-curriculum activities such as drama festivals and sports have also been adopted as strategies to curb drug and substance abuse especially in primary and secondary schools. In the school drama festivals, drug and substance abuse is one of the emerging issues that has been tackled and awards presented to the best scriptwriters and performances that expound on the dangers of drug and substance abuse. NACADA has also played a role in promoting anti-drug abuse campaigns during these festivals by giving donations to pupils and teachers as a way of creating awareness and motivating both teachers and pupils to promote anti-drug campaigns. According to Baya (2004), drama can be used to develop awareness of the various types of drugs, their sources, uses and consequences; to develop the desirable attitude towards the use of drugs based on meaningful scientific, spiritual and moral knowledge and values; to develop the basics of decision making; and dealing with stress and recognizing alternatives to drug abuse.

However, challenges were identified in using drama as a strategy to curb drug abuse. Among these was lack of adequate time to prepare items, with 71.0 per cent, 61.3 per cent and 85.7 per cent of pupils, teachers and head teachers, respectively, acknowledging it as a challenge. In this study, 50.0 per cent of the respondents identified lack of finance and trainers as a challenge whereas 51.6 per cent of the teacher respondents noted lack of administrative support as a major challenge. Other challenges identified include lack of follow up mechanisms and pupils' perception about drama. For instance, some pupils perceived drama festivals as mere entertainment, thus impeding their ability to grasp the anti-drug messages in drama items. The study also reported that the language used in drama items was above the pupils' level, and in some cases performers in drama items on drug abuse were harassed by their fellow pupils who abused drugs. Finally, drama festivals had also been criticized as an avenue where pupils were introduced to drugs, which contradicts its goal of curbing drug and substance abuse. Furthermore, drama festivals only cover a small segment of the school population while limiting access to the relevant information to most of the pupils who might not be members of drama clubs.

Measures put in place by schools to discourage drugs and substances of abuse are varied. The most common practice is: barring the construction of structures such as “kiosks” near the school compound, especially if the “kiosk” owners were suspected to be peddling drugs. Other measures include: Life skills, parental involvement and expelling the pupils who abuse and sell drugs, guidance and counselling, suspension, heavy punishment, talks by head teachers during assembly, use of guest speakers, strict school rules signed on admission by all pupils, impromptu inspections especially in boarding schools, thorough inspections at entry points on opening days, and close monitoring and vetting of pupils' visitors.

Previous research indicates that drugs and substances of abuse is a reality among Kenyan children and youth; therefore, there is need to develop and implement interventions to curb the problem early in the life of children, including among pupils. Most research has focused primarily on the roles of proximal influences of parents and peers and report mainly on adult population prevalence. Consequently, little is known on the attitude and knowledge among the primary school going children and how the community, home and school environments influence drugs and substances of abuse in this population segment. These constitute part of the focus of the current study.

1.3 Methodology and Data

The methodology outlines the process used in addressing each of the objectives of this study as outlined by its Terms of Reference (TORs).

1.3.1 Interpretation of Terms of Reference

Examine the knowledge and attitudes of drugs and substance abuse among primary school pupils in Kenya: In implementing this TOR, the research team used the Knowledge, Attitude, Perceptions and Practices (KAPP) survey approach. The research team prepared a structured tool for pupils which captured status of knowledge, attitudes, perceptions and practices on drug use and substance abuse across the selected schools.

Evaluate the availability and access of drugs and substances of abuse among primary school pupils in Kenya: The research team used both primary and secondary data sources to determine the extent to which drugs and substances of abuse were available and accessible to learners in primary school.

Determine the prevalence of drugs and substance abuse among primary school pupils in Kenya: Both primary and secondary data sources were used to estimate the prevalence rate of drugs and substances of abuse among primary school pupils.

Document the risks and protective factors associated with drugs and substance abuse among primary school pupils in Kenya: Data from schools was used to establish risk factors and control factors associated with drugs and substances of abuse in primary schools. Additional information was obtained through Key Informant Interviews and Focused Group Discussions targeting pupils.

Establish the drug refusal skills, assertiveness skills, relaxations skills, self-control skills, and influence of parenting skills: The study analysed data from both quantitative and qualitative tools to assess the status of the above skills and identified areas of intervention. Learners, teachers, parents and school management committee members were interviewed.

1.3.2 Sample design and selection

The study mainly targeted public primary schools' pupils in classes five (5) through eight (8) which corresponds to individuals mainly aged 11-15 years. However, over-age and underage learners in the target grades were also interviewed. The sampling

frame was the list of all primary schools, which was available from the Ministry of Education, Science and Technology. Besides the pupils, the survey also targeted selected key informants encompassing school management committee members, head teachers, and teachers mainly to achieve triangulation of information.

Based on the resources available, the pupil target coverage was 4,000 and the schools covered was 200. The initial step in the process was to stratify the country into ten relatively homogeneous regions as summarized in Table 1.1. In the selected schools, pupils from class 5 through 8 were randomly selected using class registers. The stratification ensured proportionate representation of schools having specific characteristics.

Table 1.1: Regional stratification used to sample schools

	Region	County
1	Coast	Mombasa, Kilifi and Lamu
2	Nyanza	Kisii, Nyamira, Kisumu and Migori
3	Western	Bungoma and Kakamega
4	Rift Valley (North)	Uasin Gishu, Elgeyo Marakwet and Baringo
5	Rift Valley (South)	Bomet, Nakuru and Narok
6	Central	Murang'a, Nyandarua and Kirinyaga
7	Eastern (Upper)	Meru, Isiolo
8	Eastern (Lower)	Machakos, Makueni and Kitui
9	North Eastern	Garissa
10	Nairobi	Nairobi (Dagoretti, Embakasi, Kasarani, Kamukunji, and Mathare)

1.3.3 Sample size and distribution

The number of schools visited in each county was based on proportion of public schools' pupil enrolment in the county. The first step was to allocate the 4,000 pupils to be interviewed across the selected counties based on total county enrolment levels. The number of pupils interviewed in a selected county was derived as:

$$\text{Number of pupils interviewed} = \frac{(\text{Number of pupils in class 5 through 8 in a county})}{(\text{Total number of all pupils in classes 5 to 8 in sample counties})} \times 4,000 \dots\dots\dots 1$$

Thus, each pupil had an equal chance of selection. The number of pupils interviewed is determined by the number of public schools selected. The target schools from each county were selected randomly and were on average equal to the number of sampled pupils divided by 20 (where 20 was the average number of pupils in each of the 200 targeted schools). The specific randomly selected schools were selected from a full list of all public schools in the country.

In the randomly selected schools, the number of pupils interviewed in each of classes 5 through 8 was proportional to enrolment in each of the grades. This number of interviewees per class was computed as:

$$\text{Number of pupils per class} = (\text{No. of pupils in grade}) / (\text{No. of pupils in grades 5 through 8}) \times \text{No. of pupils selected for school} \dots\dots 2$$

1.3.4 Survey instruments and survey implementation

During the baseline survey on use of drugs and substances of abuse in primary schools in Kenya, data was collected using four structured questionnaires. These were: the pupil questionnaire, the school questionnaire, the teacher questionnaire and the focus group discussion or key informant interview guide. The respondent to each of these instruments and data collected from each of these tools is summarized in Table 1.3.

Table 1.2: Summary of data collected by instrument type

Instrument (respondent)	Type of data collected
Individual Questionnaire (pupils)	<ul style="list-style-type: none"> • Pupils' socio-economic characteristics, including gender, age, education, distance to school, among others. • Knowledge, availability, and use, of drugs and substance abuse • Attitudes and perceptions on selected drug and substance abuse • Challenges
School Questionnaire (Head teacher/Deputy/Senior Teacher)	<ul style="list-style-type: none"> • School environment characteristics • Interventions on awareness and control of drug and substance abuse • Effects such as class repetition • School management
Teachers Questionnaire (Class Teacher and Teacher in charge of guidance and counselling)	<ul style="list-style-type: none"> • Observed forms of drug and substance abuse in schools • Interventions on awareness and control of drug and substance abuse

<p>Focused Group Discussion and Key Informant Interviews (pupils, teachers and school management committees)</p>	<ul style="list-style-type: none"> • Assessment of status of awareness of drugs and substance abuse • Challenges • Recommendations
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The data was collected over a period of three weeks in June 2018.

Before the data collection, permission was sought and granted by the Ministry of Education. Data obtained from the fieldwork was edited and captured using SPSS software. All entered data was checked for consistency, verified and weighted before the analysis. Most of the analysis was performed in Stata software.

1.3.5 Survey response rates

The survey achieved a response rate of 82.7 per cent of the targeted pupils. Although 200 primary schools from across ten (10) stratified regions in Kenya were targeted, it is 177 schools that participated in the study. A total of 3,307 pupils were interviewed. The table below provides a summary of the sample distribution and number of pupils covered across the selected counties.

Table 1.3: Total enrolment, sampled schools and covered pupils by county

County	Public schools enrolment	Sample schools based on enrolment	Number of pupils covered
Baringo	131,717	5	42
Bomet	202,158	8	99
Bungoma	480,088	18	303
Elgeyo Marakwet	109,419	4	36
Garissa	51,866	2	40
Isiolo	28,185	1	20
Kakamega	515,627	20	362
Kilifi	268,420	10	199
Kirinyaga	84,711	3	80
Kisii	267,772	10	201
Kisumu	236,755	9	161
Kitui	326,838	12	181
Lamu	24,030	1	23
Machakos	262,510	10	201
Makueni	269,367	10	179
Meru	277,324	11	228
Migori	269,357	10	181

Mombasa	66,519	3	60
Murang'a	180,974	7	120
Nairobi	182,370	7	144
Nakuru	361,594	14	163
Narok	228,788	9	161
Nyamira	128,260	5	16
Nyandarua	130,776	5	62
Uasin Gishu	167,392	6	45
Total	5,252,817	200	3,307

1.3.6 Estimating drug use and substance abuse prevalence rate

Prevalence of drugs and substances of abuse among pupils refers to the proportion of the sampled pupils who at some point in life has ever used drugs and substances of abuse. Prevalence or commonness of drug use and substance abuse was computed as the number of pupils in the sample who use(d) drugs or substances of abuse, divided by the total number of pupils in the sample as indicated in equation 1.

$$\text{Prevalence} = (\text{Number of pupils in sample who use drugs and substances of abuse}) / (\text{Total number of pupils in the sample}) \dots\dots 3$$

The study estimated and reported lifetime prevalence and point or current prevalence. *Lifetime prevalence* refers to the proportion of the population who at some point in life has ever used drugs or substances of abuse. *Current prevalence* is the proportion of the population that has used drugs or substances of abuse at any point during a given time period of interest. The use of drugs and substances of abuse within the last one month was interpreted as current use or the proportion of pupils that “currently” use drugs or substances of abuse.

1.3.7 Estimating effects of drug use and substance abuse on pupil class repetition

In estimating the effect of drugs and substance abuse on class repetition captured through binary independent variables, marginal effects measure of discrete change, i.e. how the predicted probabilities ($y=1$) change as the binary independent variable changes from 0 to 1, were estimated. In the repetition model, there were two exclusive choices: class repetition (1) and never repeated a class (0). The marginal effects from this model include the effect of using or not using drugs and substances of abuse on repetition while controlling for other factors that influence repeating a class such as gender, age, and socio-economic background of the

pupils. The estimated model (equation 4) was specified as:

$$y = \beta_0 + \beta_1 \text{druguse} + \beta_2 \text{sex} + \beta_3 \text{age} + \beta_4 \text{location} + \beta_5 \text{socioeconstatus} + u$$

.....4

Where: y is a binary variable taking the value 1 if a pupil repeated any class and zero (0) if a pupil never repeated a class. β_0 represents constant term while $\beta_1, \beta_2, \dots, \beta_k$ were the estimated parameters. u is unobservable random disturbance or error term. The explanatory variables include drug/substance use or abuse (drug use), which is a binary variable taking a value of 1 for a pupil who reported using any drug; sex, age in years, location (rural or urban) and socio-economic status (measured by whether a pupil ever slept hungry). The marginal effects of the logistic regression are reproduced in Table 5.1.

1.3.8 Estimating effects of drug use and substance abuse on academic performance

The effect of drugs and substances of abuse on pupil performance were captured through estimating a linear model (equation 4) where the dependent variable was continuous and fully observable for pupil performance. Therefore, the performance model was specified as:

$$y = \beta_0 + \beta_1 \text{druguse} + \beta_2 \text{sex} + \beta_3 \text{age} + \beta_4 \text{agesqd} + \beta_5 \text{location} + \beta_6 \text{guidance} + u$$

.....4

where the dependent variable represents the latest test performance score as provided by the pupil. The explanatory variables include: drug use which was an indicator for reported drug use by pupil, sex, age in years, age squared, location and guidance, which measures parental guidance. u is unobservable random disturbance or error; $\beta_0, \beta_1, \beta_2, \dots, \beta_k$ are the estimated parameters; and β_0 represents constant term.

1.3.9 Estimating risk factors associated with drug use and substance abuse

The methodological approach used in determining the correlates or risk factors for drugs and substances of abuse borrows from Wooldridge (2002). Under the Linear Probability Model (LPM), the probability of the event (drugs and substances of abuse among primary school pupils) occurring, y , is assumed to be a function of a set of explanatory variables. Therefore, the predictor of drugs and substances abuse was captured through estimating a linear model of the form:

$$y = \beta_0 + \beta_1 \text{sex} + \beta_2 \text{age} + \beta_3 \text{agesqd} + \beta_4 \text{location} + \beta_5 \text{frienddrugs} + \beta_6$$

$$knowledge + \beta_6 alcohol + \beta_7 guidance + u \dots 5$$

Where y is a variable capturing whether a pupil used at least one drug or substance of abuse in the last 30 days. The predictors were: sex of the pupil (sex), age in years (age), age squared (agesqd), location (location), whether pupil knows school mates who use drugs (friend drugs), pupils' knowledge about drugs (knowledge), availability of alcohol at home (alcohol), and whether parents provide academic guidance (guidance). The parameters of the estimates therefore represent the effect of a given characteristic on the chances of using drugs or substance of abuse.

Risk factors and protective factors that predispose or mitigate pupils towards/ from using drugs were also examined using non-parametric techniques. The Pearson chi-square tests were used to assess the possible association of drugs and substances of abuse, and exposure to known risk or protective factors. Some of these risk factors that were known to predispose pupils to use/abuse drugs and substances include parental or guardian use of drugs or substances of abuse, being active in a club, and being active in a religious group.

PART II: FINDINGS AND ANALYSIS

2. KNOWLEDGE AND ATTITUDES OF DRUGS AND SUBSTANCE ABUSE AMONG PRIMARY SCHOOL PUPILS IN KENYA

Before presenting the findings, Table 2.1a summarizes the background characteristics of the respondents including their age, gender, class and location. About 88 per cent of the respondents were pupils in rural schools. Males and females were just about equal and most pupils were aged between 8 and 13 years. With respect to grade, class 5 pupils were about 29 per cent of the samples pupils while the rest of the grades 6 to 8 each accounted for about 23 per cent of the sampled pupils.

Table 2.1a: Background characteristics of the sampled pupils

Location	Percent	Number
Rural	87.5	2,892
Urban	12.5	414
Sex		
Male	51.8	1,698
Female	48.2	1,578
Age		
8-13 years	61.7	2,013
14-16 years	35.5	1,159
17-20 years	2.7	90
Class		
Std 5	28.8	946
Std 6	22.9	849
Std 7	22.5	737
Std 8	22.8	749

2.1 Knowledge of Types of Drugs and Substances of Abuse

To establish the knowledge levels of the various types of drugs and substances of abuse, the pupils were asked two broad sets of questions. The first was whether they considered a listed substance as a drug or not and the second was whether they considered the substance as harmful or not.

Table 2.1b: Knowledge of types of drugs and substances of abuse (proportion indicating “yes”)

	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Total	83.8	77.8	89.3	76.1	73.2	69.9	68.1	55.1	74.2
Location									
Rural	83.0	77.0	88.7	75.0	72.6	69.4	66.7	56.3	73.6
Urban	89.0	83.5	93.2	83.1	77.6	73.5	78.0	46.8	78.1
Sex									
Male	83.6	77.8	89.4	76.8	73.0	70.2	68.6	56.1	74.4
Female	84.0	78.0	89.3	75.4	73.4	69.7	67.6	54.1	73.9
Age									
8-13 years	82.2	75.5	88.3	72.4	68.6	67.0	65.6	50.9	71.3
14-16 years	87.4	82.6	91.8	82.6	81.8	75.9	73.4	62.7	79.8
17-20 years	78.8	72.9	86.1	78.3	71.1	67.6	64.2	55.5	71.8
Class									
Std 5	76.1	68.4	84.5	62.6	60.0	58.3	55.5	52.0	64.7
Std 6	80.5	73.7	88.2	69.1	65.8	59.7	61.5	48.6	68.4
Std 7	90.5	85.0	92.8	87.2	84.0	80.0	75.6	59.6	81.8
Std 8	90.7	87.3	92.9	89.9	87.7	86.5	84.1	62.0	85.1

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Table 2.2: Knowledge of drugs and substances of abuse by county

County	Alcohol	Bhang	Cigarettes	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Total	83.8	77.8	89.3	76.1	73.2	69.9	68.1	55.1	74.2
Baringo	82.5	67.5	97.5	65.0	62.5	73.5	27.5	90.0	70.8
Bomet	97.9	95.8	96.8	93.7	93.7	81.1	64.2	68.4	86.5
Bungoma	73.7	67.7	85.0	71.9	65.3	65.6	70.3	47.0	68.3
Elgeyo Marakwet	100.0	100.0	100.0	97.1	100.0	94.3	88.6	71.4	93.9
Garissa	92.5	85.0	95.0	80.0	80.0	82.5	85.0	62.5	82.8
Isiolo	95.0	85.0	100.0	85.0	85.0	75.0	80.0	40.0	80.6
Kakamega	91.1	85.8	93.1	81.7	77.3	80.6	81.2	64.5	81.9
Kilifi	90.5	87.9	91.5	74.9	71.4	76.9	75.4	55.3	78.0
Kirinyaga	85.0	73.8	86.3	73.8	67.5	72.5	66.3	46.3	71.4
Kisii	77.1	65.2	84.1	65.2	65.7	57.8	64.5	91.5	71.4
Kisumu	81.3	79.4	89.4	72.5	73.8	68.8	76.1	66.0	75.9
Kitui	77.8	67.2	80.6	70.6	71.0	68.9	66.7	60.6	70.4
Lamu	91.3	78.3	91.3	91.3	95.7	73.9	82.6	47.8	81.5
Machakos	62.2	59.7	69.4	58.4	53.2	52.2	52.7	46.0	56.7
Makueni	70.9	66.9	80.0	62.3	63.4	66.3	64.0	48.9	65.3

Meru	89.5	86.0	91.7	82.9	79.8	71.5	69.7	41.4	76.6
Migori	82.3	71.3	88.4	78.5	65.8	64.8	65.2	60.0	72.0
Mombasa	86.7	78.3	91.7	88.7	83.3	80.0	71.7	56.7	79.6
Murang'a	85.8	77.5	91.7	73.3	77.5	70.8	61.3	45.8	73.0
Nairobi	93.7	88.8	93.7	85.3	81.1	74.8	84.6	44.1	80.8
Nakuru	89.4	88.1	93.8	84.4	82.5	80.6	80.6	48.8	81.0
Narok	70.6	56.9	88.8	53.8	55.6	28.8	18.8	73.8	55.9
Nyamira	92.9	85.7	92.9	85.7	78.6	92.9	57.1	50.0	79.5
Nyandarua	91.9	83.9	95.2	80.7	75.8	82.3	72.6	27.4	76.2
Uasin Gishu	95.0	97.5	100.0	95.0	92.3	87.5	85.0	40.0	86.5

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Most pupils (between 55% and 89% for each drug) indicated that the items on the list were drugs. Thus, most pupils expressed knowledge of the common drugs and substances of abuse. Alcohol and tobacco had the highest affirmative response of 84 per cent and 89 per cent, respectively. The drugs/substances with the least affirmative response were prescription drugs at 55 per cent and miraa at 68 per cent (Table 2.1).

Pupils in schools located in urban areas expressed higher levels of knowledge of all the listed drugs and substances of abuse except prescription drugs. For prescription drugs, about 47 per cent of pupils in urban schools identified these as drugs relative to 56 per cent of pupils in rural areas. Male and female proportions were about equal with an overall average of about 74 per cent for each sex (Table 2.1b).

For nearly all the drugs/substances, the knowledge level of the various drugs and substances of abuse increase by grade level. In all the cases, class 8 pupils exhibited more knowledge in recognizing the drug types. As an example, although only 76 per cent of class 5 pupils considered alcohol as a drug, the corresponding proportion for class 7 and 8 was about 91 per cent.

The knowledge levels of the various drugs and substances of abuse was generally high across the counties except for prescription drugs, miraa and inhalants which had in some counties lower than 50 per cent affirmative responses. For example, in Nyandarua county, only 27 per cent of the pupils indicated that prescription medicines were a drug. The corresponding proportion for Isiolo and Uasin Gishu was 40 per cent for each of the counties. In Narok, pupils who identified miraa and inhalants as drugs were only 19 per cent and 29 per cent, respectively. Baringo county had only 28 per cent of pupils identifying miraa as a drug. Although prescription drugs, such as mandrax, were reportedly a growing challenge in the coastal region, based on FGD and KII responses, the knowledge levels among pupils of prescription drugs in Kilifi, Lamu and Mombasa counties was 55 per cent, 48 per cent and 57 per cent, respectively.

Pupils also expressed their knowledge or perceptions on whether drugs and substances of abuse were harmful. The largest proportion of pupils considered tobacco to be harmful (91%) relative to the lowest proportion of 49 per cent who indicated prescription drugs were harmful. The proportion of pupils who considered alcohol, bhang, and cocaine to be harmful were 85 per cent, 84 per cent, and 78 per cent, respectively. With respect to location, a larger proportion of the pupils in urban schools indicated that the listed drugs were harmful (Table 2.3).

Survey results indicate that the lower grades had lower proportions of pupils

Table 2.3: Knowledge of harmfulness of drugs and substances of abuse by location, sex, age and class (proportion of pupils indicating “yes”)

	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Total	85.1	83.5	90.5	78.2	75.6	73.4	71.7	48.7	75.8
Location									
Rural	84.4	82.4	89.8	76.4	74.4	72.1	71.6	48.8	75.0
Urban	90.3	91.2	95.5	84.7	83.9	82.7	72.6	47.4	81.0
Sex									
Male	84.7	83.6	89.7	77.8	76.3	74.2	72.6	50.7	76.2
Female	85.6	83.3	91.6	77.3	74.9	72.6	70.8	46.5	75.3
Age									
8-13 years	84.0	82.1	90.6	75.3	73.1	71.7	71.0	47.5	74.4
14-16 years	87.2	86.1	91.5	81.7	80.1	76.4	74.0	50.3	78.4
17-20 years	83.1	81.6	85.7	81.9	76.7	78.4	66.0	54.3	76.0
Class									
Std 5	75.4	73.4	85.8	66.7	63.8	61.6	63.8	43.0	66.7
Std 6	83.7	81.0	88.3	69.5	65.4	62.2	66.9	45.7	70.3
Std 7	91.7	90.4	94.0	87.2	86.4	81.5	75.9	52.8	82.5
Std 8	92.5	92.2	95.6	90.6	91.4	88.9	83.1	55.1	86.2

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Table 2.4: Knowledge on harmfulness of drugs and substances of abuse by county

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ muguka	Prescription drugs	Average
Total	85.1	83.5	90.5	78.2	75.6	73.4	71.7	48.7	75.8
Mombasa	96.7	91.7	98.3	86.7	88.3	85.0	80.0	53.3	85.0
Kilifi	88.4	91.0	94.0	76.9	77.9	78.4	72.1	52.5	78.9
Lamu	100.0	87.0	100.0	91.3	95.7	78.3	82.6	8.7	80.5
Garissa	87.5	87.5	90.0	80.0	80.0	82.5	80.0	65.0	81.6
Isiolo	90.0	85.0	100.0	80.0	80.0	85.0	75.0	55.0	81.3
Meru	86.4	90.4	89.9	81.6	80.3	78.5	66.7	46.5	77.5
Kitui	76.7	74.4	82.2	68.3	70.6	71.1	69.4	64.4	72.1
Machakos	66.1	70.3	74.1	58.4	57.8	60.5	60.5	45.1	61.6
Makueni	81.5	79.2	85.4	72.5	73.0	75.8	75.9	57.3	75.1
Nyandarua	91.9	93.6	96.8	83.9	85.5	83.9	83.9	53.2	84.1
Kirinyaga	90.0	85.0	93.8	77.5	80.0	73.8	78.8	51.3	78.8
Murang'a	91.7	91.7	93.3	74.2	69.8	75.8	67.5	42.5	75.8
Uasin Gishu	92.5	90.0	95.0	94.6	92.5	82.5	75.0	35.0	82.1
Elgeyo Marakwet	100.0	100.0	100.0	91.4	91.4	100.0	100.0	48.6	91.4
Baringo	60.0	52.5	85.0	67.5	37.5	15.0	50.0	40.0	50.9
Nakuru	91.9	91.3	96.3	88.1	89.4	86.3	78.6	62.5	85.6
Narok	65.0	61.3	80.0	65.6	33.8	28.1	45.6	17.5	49.6
Bomet	85.3	86.3	91.6	84.2	81.1	86.3	76.8	61.1	81.6
Kakamega	93.6	91.7	95.6	84.2	84.5	83.3	85.9	54.0	84.1
Bungoma	80.7	78.3	85.6	72.0	71.7	68.4	65.7	45.2	71.0
Kisumu	91.3	81.9	91.9	83.8	79.4	71.0	68.8	41.5	76.2
Migori	84.0	78.8	94.5	80.7	75.7	69.7	67.2	51.4	75.3
Kisii	82.6	81.5	89.1	79.1	77.6	69.6	65.2	49.5	74.3
Nyamira	92.9	85.7	100.0	78.6	85.7	85.7	78.6	42.9	81.3
Nairobi City	93.0	93.0	95.1	81.1	79.7	82.5	77.1	35.0	79.6

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

indicating whether the listed drugs were harmful. As an example, while 93 per cent of class 8 pupils indicated that they consider alcohol as a harmful substance, only 75 per cent of class 5 pupils considered alcohol as harmful.

Although knowledge of the harmfulness of drugs and substances of abuse was generally high across the counties for most drugs, there were cases of very low rates of knowledge associated with the consequences. Relatively low levels of knowledge of the harm that may come from heroin, inhalants, miraa and prescription drugs were reported in Baringo and Narok. The potential harmful effects of prescription drugs were generally low across most counties.

2.2 Pupils Attitudes Towards Alcohol and Drug Use

The survey sought to assess the attitude of pupils towards alcohol and drug use by examining their anti-smoking and anti-drinking perspectives. The pupils responded to Likert scale that ranged from “strongly disagree” to “strongly agree.” Table 2.5 summarizes the proportion of pupils who strongly disagreed or disagreed with the respective statements expressing negative attitudes on use of drugs/substances of abuse.

The overall findings on the anti-smoking and anti-drinking attitudes of the primary school pupils indicate that nearly 8 out of every 10 pupils revealed strong disagreement or disagreement with the stated negative attitudes/attributes tested (Table 2.5). About 79 per cent “strongly disagreed or disagreed” with the statement that children who drink alcohol were more grown-up. A similar proportion “strongly disagreed or disagreed” with the statement that smoking cigarettes makes one look cool. Rural proportions were slightly lower than urban proportions with small and insignificant variations across boys and girls. The proportion of pupils “strongly disagreeing or disagreeing” with the statements increased consistently from the lower to the higher-grade levels for all the statements (Table 2.5).

In other findings, drinking alcohol or smoking was not associated with having more friends by a larger proportion of pupils (about 77%). Forty-six (46) per cent of pupils “strongly disagreed” and 31 per cent “disagreed” that children who drink alcohol have more friends. With respect to smoking, 46 per cent strongly disagreed and 31 per cent disagreed that children who smoke cigarettes have more friends. Relative to other grades, a larger proportion of class five pupils (18%) seemed to harbour the wrong attitude. For class five, 8 per cent “agreed” and another 10 per cent “strongly agreed” that children who drink alcohol have more friends. In addition, a larger proportion of class five pupils (10%) agreed that children who smoke had more friends (Table 2.5).

Primary school pupils exhibited strong anti-smoking and anti-drinking attitudes. Pupils also expressed their opinion on whether drinking alcohol makes one look “cool” or drinking alcohol and smoking cigarettes lets one have more fun. Most of the pupils opposed this notion, with nearly half of the pupils (49%) strongly disagreeing and 30 per cent disagreeing that drinking makes one look cool. Across the classes, grades 5 and 6 had the largest proportion of pupils (8%) who strongly agreed that drinking alcohol makes one look cool. A larger proportion of pupils dissociated smoking cigarettes to having more fun. The largest proportion of pupils (49%) strongly disagreed that smoking cigarettes lets one have more fun. In a related issue, a larger proportion of pupils (51%) strongly disagreed and 29 per cent disagreed that drinking alcohol lets you have more fun.

The overall findings on the anti-smoking and anti-drinking attitudes of the primary school pupils indicate that disagreement with most of the attributes tested increased with the grade level. Conversely, larger proportions of pupils in agreement with the attributes tested were from the lower classes (i.e. class 5 followed by class 6). This can be interpreted to suggest that pupils in upper classes were more sensitized about the negative impacts of drugs. This would be expected since higher grade pupils were expected to have covered many more positive topics (in their education) related to drugs and substances of abuse. The finding would nevertheless be indicative of the need for sensitization to the lower level classes to counter their proportionately higher admiration of drug use.

Table 2-5: Proportion of pupils that strongly disagreed or disagreed with various negative attitudes

	Total	Location		Sex		Class				
		Rural	Urban	Boys	Girls	Std 5	Std 6	Std 7	Std 8	
Children who drink alcohol are more grown up	79.3	79.1	80.0	79.7	78.8	72.1	77.4	82.5	87.1	
Smoking cigarettes makes you look cool	79.2	78.2	86.0	80.3	78.1	70.6	77.5	84.4	87.0	
Children who drink alcohol have more friends	77.2	76.8	80.8	77.1	77.5	71.2	76.4	78.5	84.6	
Children who smoke cigarettes have more friends	77.3	76.8	80.8	77.1	77.5	71.2	76.4	78.5	84.6	
Drinking alcohol makes you look cool	77.2	78.6	81.5	80.1	77.9	71.2	76.4	78.5	84.6	
Smoking cigarettes lets you have more fun	78.3	77.6	82.5	79.1	77.4	71.9	76.1	82.1	85.0	
Children who smoke cigarettes are more grown up	78.7	78.1	82.9	79.7	77.7	70.9	78.1	82.5	85.4	
Drinking alcohol lets you have more fun	79.8	78.6	87.78	80.3	79.1	70.9	79.1	85.7	85.9	

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

3. AVAILABILITY AND SOURCES OF DRUGS AND SUBSTANCES OF ABUSE

3.1 Availability of Drugs and Substances of Abuse

It is known that availability of drugs and substances of abuse in or around the school environment is one of the main causes of drugs and substance abuse. The pupils were asked to indicate their opinion on the availability of drugs and substances of abuse by responding to a question on whether the particular drugs/substances were readily available in or around their school environment. Pupils also responded to a question on whether they knew a friend/schoolmate who used drugs/substances, and whether their parent/guardian used drugs. These scenarios all measured the extent of availability of drugs in their immediate environments.

The overriding result was that a larger proportion of pupils (ranging from 58% to 83% across the different drug/substance types) indicated that the drugs/substances were not readily available in or around their school environment). The most readily available drugs were tobacco, prescription drugs, and alcohol which were thought to be readily available by 42 per cent, 28 per cent and 26 per cent of the pupils, respectively (Table 3.1). Apparently, relative to urban pupils, a larger proportion of pupils in rural primary schools perceived that some drugs and substances of abuse such as alcohol, bhang, tobacco and cocaine were readily available. Larger proportions of pupils in urban schools relative to rural pupils perceived that miraa, prescription drugs, and inhalants were readily available (Table 3.1).

Availability of drugs and substances of abuse was higher among male pupils and increased with grade. Perhaps this is because boys tend to have slightly higher levels of exposure to drugs and substances of abuse, but the sex differences were mostly insignificant.

Drugs and substances that were available in or around the schools vary across counties and by type of drug (Table 3.2). Alcohol was perceived to be most readily available around the school environment by pupils from Elgeyo Marakwet and Machakos counties (40% each) and Kilifi county at 36 per cent. Bhang's availability was highest for Garissa (33%), Isiolo (30%) and Makueni (24%). Tobacco was perceived to be most readily available in Murang'a (57%) and Elgeyo Marakwet (54%). Isiolo and Garissa counties had the highest stated availability of inhalants at 40 per cent and 33 per cent, respectively. Relative to other counties, the largest proportion of pupils from Isiolo and Baringo (40%) indicated that miraa was readily available followed by Garissa (38%).

Table 3.1: Availability of drugs and substances in or around the school environment by location, sex, age, class (proportion of pupils indicating readily available)

Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa / muguka	Prescription drugs	Average	
Total	25.9	16.6	41.9	11.1	10.4	19.5	23.1	27.8	18.6
Location									
Rural	26.6	16.7	43.3	11.2	10.4	19.4	22.6	27.3	18.8
Urban	21.2	15.9	32.4	9.8	9.9	20.3	26.4	31.5	17.0
Sex									
Male	26.6	16.9	42.9	11.2	10.7	21.2	24.6	28.1	19.3
Female	25.1	16.4	40.9	11.0	10.0	17.8	21.5	27.6	17.8
Age									
8-13 years	22.0	13.3	37.9	9.2	6.1	14.9	12.5	22.9	14.5
14-16 years	27.0	16.4	42.7	10.8	10.4	19.1	24.9	30.3	18.9
17-20 years	25.2	16.9	41.6	11.2	10.5	19.8	22.6	26.7	18.5
Class									
Std 5	24.7	19.4	40.9	15.6	13.0	21.5	22.2	23.3	19.7
Std 6	23.8	16.3	38.9	8.9	9.0	18.2	22.2	23.0	17.2
Std 7	28.7	14.7	45.0	9.6	10.2	20.1	23.4	34.5	19.0
Std 8	27.1	15.3	43.7	9.2	8.9	18.0	24.9	32.5	18.4

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Table 3.2: Availability of drugs and substances in or around the school environment by county

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Baringo	12.5	15.0	45.0	12.5	5.0	15.0	40.0	2.5	18.1
Bomet	25.3	9.5	37.9	5.3	4.2	3.2	20.0	26.3	13.2
Bungoma	28.9	16.1	46.2	14.7	11.1	21.7	24.4	44.5	20.4
Elgeyo Marakwet	40.0	14.3	54.3	0.0	2.9	22.9	11.4	31.4	18.2
Garissa	32.5	32.5	42.5	27.5	20.0	32.5	37.5	35.0	28.1
Isiolo	35.0	30.0	40.0	10.0	10.0	40.0	40.0	40.0	25.6
Kakamega	28.8	16.9	44.9	8.6	7.2	21.1	14.4	39.7	17.7
Kilifi	35.9	19.1	47.2	9.6	11.6	21.1	17.6	36.7	20.3
Kirinyaga	26.3	20.0	46.3	11.3	10.0	26.3	28.8	41.3	21.1
Kisii	29.2	19.4	41.0	11.4	10.5	20.4	20.5	27.3	19.1
Kisumu	32.7	20.6	47.5	16.3	16.3	21.3	25.0	27.5	22.5
Kitui	35.2	19.6	46.4	21.2	21.8	23.5	25.1	25.1	24.1
Lamu	26.1	4.4	26.1	0.0	4.4	4.4	13.0	21.7	9.8
Machakos	23.8	16.8	48.1	11.9	11.4	16.3	26.5	21.2	19.4
Makueni	39.9	24.2	52.3	17.0	19.1	28.1	29.8	31.6	26.3
Meru	20.6	19.7	38.6	9.2	10.1	15.9	28.5	27.6	17.8
Migori	13.8	11.1	32.0	9.9	6.6	19.9	18.2	16.6	13.9
Mombasa	11.7	6.7	35.0	5.0	6.7	15.0	23.3	25.0	12.9
Murang'a	31.7	20.0	56.7	15.8	16.7	25.8	33.3	21.7	25.0
Nairobi City	22.4	13.3	37.1	4.2	8.4	21.0	31.5	39.2	17.2
Nakuru	16.3	12.5	27.5	6.9	6.9	12.5	23.8	21.9	13.3
Narok	6.9	6.9	18.1	3.8	3.8	9.4	23.1	2.5	9.0
Nyamira	28.6	42.9	64.3	21.4	14.3	35.7	21.4	14.3	28.6
Nyandarua	30.7	9.7	50.0	6.5	4.8	25.8	21.0	29.0	18.6
Uasin Gishu	15.0	7.7	22.5	12.5	12.5	10.0	5.0	15.0	10.7

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

For each of the drugs, pupils were asked to state whether the drug/substance was easy, difficult or impossible to access in the school environment. Generally, most pupils (80% to 94%) think that getting the various drug types was “impossible” or “difficult.” Prescription drugs were perceived as the most available with a proportion of 17 per cent of the pupils indicating they were easy (rather than difficult or impossible) to access. Other drugs that were perceived to be relatively more accessible were tobacco and alcohol with a respective 8 per cent and 6 per cent of pupils indicating they were easy to access (Table 3.3).

Table 3.3: Difficulty in getting drugs and substances of abuse in or around the school environment by location

		Easy	Difficult	Impossible
Alcohol	Total	5.9	35.9	58.2
	Rural	5.9	35.7	58.3
	Urban	5.4	37.3	57.3
Bhang	Total	3.9	35.8	60.3
	Rural	3.7	35.7	60.6
	Urban	5.4	36.1	58.5
Cigarettes	Total	7.9	35.1	57.0
	Rural	7.7	35.2	57.1
	Urban	9.2	34.5	56.3
Cocaine	Total	4.3	36.3	59.4
	Rural	4.5	36.6	58.9
	Urban	2.7	34.5	62.8
Heroin	Total	3.3	36.9	59.9
	Rural	3.5	37.0	59.5
	Urban	1.6	36.3	62.2
Inhalants	Total	4.1	38.5	57.4
	Rural	4.1	38.7	57.2
	Urban	4.8	37.1	58.2
Miraa/Muguka	Total	5.4	38.7	55.9
	Rural	5.1	39.2	55.7
	Urban	7.4	35.8	56.8
Prescription drugs	Total	16.5	33.9	49.6
	Rural	16.0	34.0	50.0
	Urban	19.6	33.1	47.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Besides the school environment, pupils expressed their opinion whether the drug/substance was easy, difficult or impossible to access in the home environment. Generally, 85 per cent to 100 per cent think that getting the various drug types was “impossible” or “difficult.” Prescription drugs were the most accessible with a proportion of 2 out of every 10 pupils suggesting they were easy to access. This was followed by miraa which was perceived to be easily accessible by 16 per cent of the pupils. Both alcohol and tobacco were thought to be easy to access by 15 per cent of pupils.

In a related vein, pupils were asked if they knew a school mate or a friend who used particular drugs/substances. The results indicate that most pupils (between 84% and 96% for the various drugs/substances) did not know of any of their schoolmates or friends who used the various listed drugs and substances of abuse (Table 3.4). Tobacco and prescription drugs had the highest proportion and about 16 per cent of the pupils knew a schoolmate or a friend who used tobacco while nearly 14 per cent knew an individual using prescription drugs. About 1 in every 10 pupils knew a schoolmate or a friend who used alcohol and a similar proportion knew a schoolmate/friend who used miraa. These proportions were consistent with measures of prevalence rates, which suggest that these drugs (prescription drugs, alcohol, tobacco, and miraa) were the most commonly used or abused drugs.

The level of knowledge of schoolmates or friends who used each of the other drugs (including bhang, cocaine, heroin, and inhalants) was 6 per cent. The rural versus urban differences in the level of knowledge were small and not clear cut but varied across the drug types. Female pupils tended to have larger proportions for knowledge of schoolmates/friends who use drugs/substances. Contrary to what would be expected, the increase in age and grade of a student did not necessarily increase the proportion of pupils that knew a schoolmate or a friend who used drugs or substances of abuse (Table 3.4).

Use of drugs and substances of abuse is likely to influence the prevalence among children. The survey also sought to find out if parents or guardians of the pupils use drugs. It is known that use of drugs by parents or guardians would have an influence on the drug use status of their children. Use of drugs by parents/guardians was also an indicator of availability of the drugs/substances within a pupil’s proximal environment.

In response to the question whether their parent or guardian use specific drugs/substances, most pupils (ranging from 85% to 97% for the various drugs) indicated that their parents/guardians do not use drugs/substances. Based on pupils’ responses, tobacco and alcohol were reportedly the most used drugs by parents/guardians and these were used by about 15 per cent and 14 per cent of parents/guardians, respectively (Table 3.5). Boys reported larger proportions for alcohol,

Table 3.4: Drugs and substance abuse by schoolmates or friends

	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Total	9.6	5.4	16.0	4.4	3.6	5.7	10.6	13.8	6.9
Location									
Rural	10.1	5.3	15.9	4.7	3.9	5.8	10.2	13.7	7.0
Urban	6.4	6.3	16.9	2.5	2.0	5.5	12.8	14.9	6.6
Sex									
Male	9.2	5.2	15.1	3.9	3.8	5.7	10.5	11.7	6.7
Female	10.1	5.6	17.0	5.0	3.5	5.8	10.6	16.1	7.2
Age									
8-13 years	7.8	4.3	16.0	4.3	3.6	5.4	10.4	13.5	6.5
14-16 years	12.9	7.2	15.9	4.3	3.5	6.0	11.0	14.5	7.6
17-20 years	7.1	6.7	16.5	9.0	5.6	8.7	8.2	13.0	7.7
Class									
Std 5	8.8	6.6	19.2	7.2	6.2	7.8	11.7	12.8	8.4
Std 6	8.2	5.0	15.2	3.8	3.9	7.2	11.0	13.4	6.8
Std 7	11.2	4.8	14.9	2.7	1.8	3.7	10.5	14.4	6.2
Std 8	10.9	5.1	14.0	3.2	2.0	3.5	8.6	15.0	5.9

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

tobacco and cocaine and lower for all the other drugs/substances. Older cohorts of pupils and pupils in higher grade levels tended to have larger proportions of drug use by a parent/guardian.

Role models are also likely to influence children behaviour, including use of drugs and substances of abuse. Consequently, the pupils whose role model was not their parent or guardian were asked to respond to the question whether their role model uses drugs/substances of abuse. For most pupils (35%), their stated role model was “teacher” followed by mother and father with respective proportions of 26 per cent and 17 per cent. “Celebrities” were role models for only 10 per cent of the pupils. Use of drugs/substances by these role models may have a negative impact in the pupils’ decision on use of drugs and substances of abuse.

About 14 per cent to 17 per cent of pupils were not aware if their role models used specific drug types. As indicated in Table 3.6, relatively low proportions of role models were indicated to use drugs. About 10 per cent of role models were reported to use prescription drugs and this was more or less the same for location, age group and class of the pupils. About 9 per cent and 7 per cent of the pupils reported that their role models used tobacco and alcohol, respectively.

3.2 Sources of Drugs and Substances of Abuse

Shops and or kiosks near schools and bars near schools were the main sources of drugs and substances of abuse among primary school pupils. The pupils were asked to identify where their colleagues obtain drugs and substances of abuse. The largest proportion of pupils indicated that the shops/kiosks near the school (29%) and the bars near school (26%) were the main sources of drugs/substances. Friends (19%) and the local brew dens (18%) were identified as the other important sources (Table 3.7). Pupils in rural and urban areas expressed similar patterns in the sources except that the role of friends as a source was more prominent among urban pupils than rural ones (with respective proportions of 23% and 19%, respectively). The examination of sources of drugs/substances across sex, age and grade level largely mirrored the overall pattern where kiosk/shops, bars and friends were the more prominent sources identified across these groups.

Other sources of drugs and substances of abuse were school workers, matatu touts, purchase from over the counter in chemists, and drug peddlers that roam around the school compound. To gain more insight on the main sources of drugs and substances of abuse, FGD and KII participants were asked to identify the likely sources of drugs/substances. The participants cited other sources which included “school workers, matatu touts, purchase over the counter in chemists, and drug peddlers that roam around the school compound. Pupils from Kakamega divulged

Table 3-5: Drugs and substance use by a parent or guardian (proportion of pupils saying “yes”)

	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ muguka	Prescription drug	Average
Total	13.9	4.2	14.8	3.8	4.9	3.5	3.4	12.0	7.6
Location									
Rural	14.5	4.2	14.5	3.7	5.2	3.5	5.8	11.6	7.9
Urban	10.2	4.4	16.7	4.1	2.7	3.1	10.4	15.0	8.3
Sex									
Male	14.7	4.1	15.2	4.0	4.5	3.2	6.2	10.8	7.8
Female	13.2	4.4	14.4	3.6	5.4	3.7	6.6	13.3	8.1
Age									
8-13 years	12.7	4.3	13.3	3.8	4.8	3.7	6.0	11.5	7.5
14-16 years	15.8	3.8	17.5	3.6	4.7	2.8	6.9	12.7	8.5
17-20 years	17.4	6.8	13.0	4.6	5.8	6.5	6.6	14.5	9.4
Class									
Std 5	13.7	3.0	14.1	2.2	1.4	1.9	6.2	14.3	7.1
Std 6	11.7	3.4	12.8	3.9	5.8	3.5	5.9	10.9	7.2
Std 7	17.3	3.8	17.2	2.7	3.5	2.9	7.4	13.9	8.6
Std 8	13.5	6.2	15.2	5.8	7.9	5.1	6.2	9.7	8.7

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

that they get alcohol (chang'aa and busaa) from home, since majority of their parents "brew at home". In addition, drug traffickers use all baits to recruit children since they prefer to use them in distribution of drugs as they were perceived to be cheap, easy to control, expendable and cannot be easily suspected. This is likely to further expose the children to drugs and substances abuse.

A larger proportion of the pupils indicated that pupils from their school were most likely to access drugs and substances during school holidays (30%). Pupils were asked to express their opinion on periods that pupils from their school were most likely to use drugs. The other major periods identified were "on their way home from school" (22%), "weekends at school" (21%) and during inter-schools' athletics, sports, and in music/ drama competitions (20% each). The findings were consistent with those of NACADA (2017) whose study on secondary school indicated that pupils were most likely to use drugs during school holidays, on their way home from school, during weekends, during inter-school meetings and during outings.

Table 3.6: Drugs and substance use by role model (pupils indicating “yes”)

	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ muguka	Prescription drugs	Average
Total	6.5	2.2	8.7	3.4	2.4	2.5	5.0	9.7	5.1
Location									
Rural	6.2	2.1	8.3	3.2	2.5	2.6	4.6	9.2	4.8
Urban	9.1	2.5	12.0	4.1	1.4	1.8	7.3	12.9	6.4
Sex									
Male	6.6	1.6	8.7	2.9	2.4	1.9	4.8	8.5	4.7
Female	6.5	2.8	8.8	3.8	2.4	3.2	5.1	10.9	5.4
Age									
8-13 years	6.1	2.1	9.0	3.0	2.0	2.8	4.9	9.5	4.9
14-16 years	7.3	2.2	8.3	3.8	2.9	1.8	5.0	9.7	5.1
17-20 years	5.4	3.4	7.8	3.4	2.1	5.4	4.3	11.9	5.5
Class									
Std 5	5.7	3.1	10.4	4.8	4.2	2.9	6.1	8.3	5.7
Std 6	5.9	2.6	9.5	4.2	2.6	3.5	5.3	9.7	5.4
Std 7	9.4	1.1	7.6	2.3	1.6	2.1	4.7	10.6	4.9
Std 8	5.5	1.6	6.8	1.6	0.7	1.3	3.4	10.4	3.9

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Table 3.7: Sources of drugs and substances of abuse (pupils indicating “yes”)

	Kiosk or shop near school	Bar near school	From friends	From school workers	Carried from home	Local brew dens	Supermarket near school	Bought from other pupils
Total	28.6	25.7	19.3	13.4	13.6	18.3	9.7	13.7
Location								
Rural	28.6	25.3	18.7	13.3	13.0	17.9	9.6	13.3
Urban	28.9	28.3	23.3	13.4	17.8	20.4	10.1	16.5
Sex								
Male	28.8	25.3	19.2	13.0	13.7	18.4	9.1	14.1
Female	28.5	26.1	19.3	13.9	13.5	18.0	10.3	13.1
Age								
8-13 years	28.5	25.8	17.5	13.3	12.6	18.0	8.7	13.0
14-16 years	28.5	25.5	21.7	13.7	15.6	19.2	11.7	15.0
17-20 years	27.5	18.8	20.2	6.1	8.8	13.8	6.8	11.1
Class								
Std 5	25.6	23.5	17.5	12.3	10.8	15.6	9.0	11.4
Std 6	28.4	26.4	18.1	14.1	15.0	17.5	10.5	14.1
Std 7	28.4	26.9	21.9	13.8	15.8	20.9	9.0	14.9
Std 8	33.0	26.4	20.5	17.6	13.5	19.8	10.1	14.8

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

4. PREVALENCE OF DRUGS AND SUBSTANCE ABUSE AMONG PRIMARY SCHOOL PUPILS IN KENYA

Prevalence of drugs and substances of abuse among pupils refers to the proportion of the sampled pupils who experimented or used a specific drug in a given period. Prevalence or commonness of drugs and substances of abuse was computed as the number of pupils in the sample who use(d) drugs or substances of abuse, divided by the total number of pupils in the sample as indicated in equation 1 in the methodology section.

Although there were at least three separate ways of measuring and reporting prevalence of drugs and substances of abuse, this report presents two measures, i.e. lifetime use or prevalence and current use or prevalence. Drug or substance lifetime prevalence or use was the proportion of the population who at some point in life has ever used drugs or substances of abuse. In this report, current use or prevalence refers to the proportion of pupils who used drugs or substances of abuse in the last one month. The third measure relates to a combination of those who have ever used and were currently using drugs and substances of abuse.

4.1 Evolution of the Status and Prevalence of Drugs and Substances Abuse in Kenya

With respect to drug use status and prevalence, most surveys focus on individuals aged 15 years and above. These surveys include the Kenya Integrated Household Budget Survey (KIHBS) 2005/06 and 2015/16, the Kenya Demographic and Health Surveys (KDHS), and Kenya Global Adult Tobacco Survey (GATS). There are other surveys that focus on the youth aged 13 to 15 years. These surveys include the Global school-based student health survey and the Global youth tobacco survey.

Other studies have found that tobacco use was higher among boys than girls. The Global youth tobacco survey, one of the few surveys focusing on youth populations, found that, for the youth aged 13-15 years, “any tobacco use” by boys was higher than that of girls (Table 4.1). Relative to 2007, the prevalence for both boys and girls reduced in 2013 based on the global youth tobacco survey. Girls had relatively higher levels of tobacco use compared to findings for women (aged 15 and above). Both the Global youth tobacco survey and the Kenya GATS 2014 indicate evidence of use of smokeless tobacco among the youth. Relative to “tobacco use” by females (which has been lower than 2 per cent in most surveys) use of “smokeless tobacco” appears to be higher among females (Table 4.1).

Table 4.1: Tobacco Use: Recent national surveys among youth in Kenya

Survey name	Survey year	Age	Tobacco type	Current use		Smokeless use	
				Boys	Girls	Boys	Girls
Global school-based student health survey	2003	13-15	Any tobacco use	21.4	13.8	na	na
Global youth tobacco survey	2007	13-15	Any tobacco use	14.9	14.5	na	na
Global youth tobacco survey	2013	13-15	Any tobacco use	12.8	6.7	4.3	3.3

Source: WHO (2015). Na: Data not available

Alcohol is the most used drug in Kenya followed by tobacco. Findings from a National Survey on Alcohol and Drug Abuse conducted by NACADA in 2017 showed that 18.2 per cent of Kenyans were using at least one substance of abuse, 12.2 per cent alcohol, 8.3 per cent tobacco, 4.1 per cent miraa (khat) and 1.0 per cent bhang. Bhang was the most easily available illicit drug in the country at 49 per cent followed by cocaine while heroin was the least available illicit drug in the country. These findings concurred with global findings on drug use whereby bhang was the most widely used illicit substance globally, with an estimated annual prevalence of 3.8 per cent of the adult population, or an estimated 183 million people having used cannabis in the past year.

In 2017, the most commonly abused drugs among the youth were alcohol, tobacco, khat and cannabis. A countrywide survey conducted by NACADA (2017) among pupils and school leavers concluded that substances of abuse, both licit and illicit, were forming a sub-culture among Kenyan youth. Overall, the most commonly abused drugs were alcohol, tobacco, khat and cannabis. In addition, the median age of initiation to tobacco products was reported at age 10 while the minimum was 8 years.

4.2 Pupils Prevalence of Drug use and Substances of Abuse

With respect to lifetime use, prescription drugs, alcohol and tobacco were the most prevalently ever used drugs by primary school pupils. Prescription drugs were ever used by 10.4 per cent of the pupils with respective proportions of 10.1 per cent and 10.8 per cent for boys and girls. About 7.2 per cent of the pupils indicated they ever used alcohol while 6.0 per cent indicated they ever used cigarettes. A higher proportion of boys (8.4%) ever used alcohol than girls (6.0%). In addition, a larger

Table 4.2: Lifetime use of drugs and substances of abuse among pupils, 2018

Background characteristic	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/Muguka	Prescription drugs	Average*
Total (all pupils)	7.2	1.2	6.0	0.7	0.4	0.5	3.7	10.4	20.2
Location									
Rural	7.4	1.1	6.2	0.6	0.4	0.6	3.4	9.7	20.0
Urban	5.8	1.7	4.5	1.5	0.7	0.4	4.3	15.1	22.3
Sex									
Boys	8.4	1.2	7.2	0.8	0.4	0.5	4.6	10.1	21.8
Girls	6.0	1.2	4.8	0.7	0.4	0.6	2.8	10.8	19.1
Age									
8-13 years	6.1	0.9	5.1	0.0	0.3	0.6	3.5	7.4	19.5
14-16 years	9.2	1.7	7.6	0.8	0.6	0.3	4.2	10.3	22.4
17-20 years	7.3	1.1	6.7	0.8	1.1	1.1	3.4	10.4	18.1
Class									
Five (5)	3.9	1.2	4.2	1.1	0.4	0.5	3.1	6.3	16.0
Six (6)	6.7	0.9	6.5	0.7	0.8	1.2	4.2	8.8	18.8
Seven (7)	8.9	1.4	7.0	0.7	0.3	0.2	3.9	13.3	22.8
Eight (8)	10.3	1.2	6.0	0.5	0.1	0.2	3.7	14.5	20.5

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,266)

Note: * Refers to use of at least one drug

share of boys (7.2%) than girls (4.8%) reported having ever used tobacco. Miraa/muguka was ever used by 3.7 per cent of the pupils with respective proportions of 4.6 per cent and 2.8 per cent for boys and girls. Bhang/marijuana was ever used by 1.2 per cent of the pupils with similar per cent ages for both boys and the girls. The self-reported lifetime use of the other drugs (including cocaine, heroin, and inhalants) was lower than 1 per cent (Table 4.2).

The prevalence rate for alcohol and tobacco use was higher in rural areas but higher for other drugs in urban areas. The level of lifetime use of drugs and substances of abuse was higher in urban areas than rural areas for prescription drugs, miraa and the psychotropic drugs including bhang, cocaine and heroin. Meanwhile, rural areas had higher proportions of lifetime users for alcohol, tobacco and inhalants.

With respect to lifetime use, prevalence or experimentation of alcohol and prescription drugs, there was a general increase with the pupil's from respective higher classes and age. As examples, 10.3 per cent of class eight (8) pupils ever experimented/used alcohol relative to 3.9 per cent for class five (5) pupils. Also, 6.3 per cent of class five (5) pupils reported experimenting/using prescription drugs relative to 14.5 per cent for pupils in class eight (8) (Table 4.2).

Lifetime use or ever use by county

Prevalence of ever use of the various drug types varies across counties. Prevalence of ever use of the various drug types by county is summarized in Table 4.3, which shows variations across the counties. Alcohol was most prevalent among pupils in Murang'a (18.3%), Uasin Gishu (17.5%) and Bungoma (14.0%).

The ever use of bhang was estimated at 1.2 per cent for the sample. The highest rates for lifetime use were for Uasin Gishu (5 per cent), Narok (3.8 per cent) and Kilifi (3.5 per cent) counties (Table 4.3). Lifetime use of tobacco (which includes cigarettes, kuber, shisha, snuff/mbaki/chavis) was 6.0 per cent across the sampled schools. Some of the highest lifetime use rates are for Murang'a, Kisii and Nairobi counties with respective rates of 15.0 per cent, 11.5 per cent and 9.8 per cent.

Lifetime use of cocaine among the sampled primary schools was 0.7 per cent. Narok, Nairobi and Baringo had the highest respective rates of 3.1 per cent, 2.8 per cent and 2.5 per cent respectively. Lifetime use of Heroin was 0.4 per cent among the sampled primary pupils. Heroin self-reported non-use rates were close to 100 per cent for most of the sampled counties. The highest use rates were for Bungoma, Nairobi and Kilifi counties which had prevalence rates of between 1 and 1.7 per cent (Table 4.3).

Table 4.3: Have you ever experimented or used a given drug or substance of abuse in your lifetime (%)

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription Drugs	Average
Total	7.2	1.2	6.0	0.9	1.2	1.2	3.7	10.4	20.2
Baringo	0.0	2.5	5.0	2.5	0.0	0.0	15.0	0	19.1
Bomet	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.2	4.0
Bungoma	14.0	1.3	8.0	1.7	1.7	1.0	5.3	18.3	33.3
Elgeyo Marakwet	8.6	0.0	5.7	0.0	0.0	0.0	2.9	11.4	14.3
Garissa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
Isiolo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
Kakamega	6.7	0.6	4.7	0.3	0.3	0.3	1.4	24.4	29.3
Kilifi	7.5	3.5	5.5	1.5	1.0	0.5	2.5	15.6	23.6
Kirinyaga	10.0	1.3	6.3	1.3	0.0	1.3	2.5	11.3	27.5
Kisii	12.0	2.0	11.5	0.5	0.5	0.0	3.5	9	26.4
Kisumu	4.4	0.6	8.8	0.6	0.0	0.6	2.5	8.8	19.3
Kitui	3.9	1.1	3.4	1.1	0.0	0.0	0.6	0.6	6.1
Lamu	0.0	0.0	8.7	0.0	0.0	0.0	0.0	13	21.7
Maachakos	4.7	0.0	4.3	0.5	0.0	0.0	3.7	3.2	9.5
Makueni	4.5	0.0	3.4	0.0	0.9	0.0	1.1	5.1	10.1
Meru	1.3	0.0	0.9	0.0	0.0	0.9	6.6	4.8	12.3
Migori	4.4	0.0	6.1	0.0	0.0	0.0	0.0	7.7	17.1
Mombasa	8.3	1.7	1.4	1.7	0.0	0.0	3.3	21.7	30.0
Murang'a	18.3	1.7	15.0	0.0	1.4	1.7	10.0	10.8	35.0
Nairobi	11.2	3.5	9.8	2.8	0.0	0.7	10.5	28.7	36.1
Nakuru	5.0	0.0	2.5	0.0	0.0	0.6	1.2	7.5	13.5
Narok	1.9	3.8	3.1	3.1	0.0	1.9	10.0	3.1	14.9
Nyandarua	3.2	0.0	1.6	0.0	0.0	0.0	1.6	9.7	16.1
Uasin Gishu	17.5	5.0	20.0	0.0	0.0	2.5	5.0	0	26.7

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Note: Nyamira was excluded because of its low coverage

Inhalants (which included glue and petrol) had a lifetime use prevalence of 1.2 per cent among the sampled pupils. Lifetime use rates were highest for Uasin Gishu county at 2.5 per cent followed by Narok and Murang'a counties with respective rates of 1.9 per cent and 1.7 per cent.

Miraa/muguka lifetime prevalence was 3.7 per cent across the sampled counties. Relatively higher rates were recorded in Baringo (15.0%), Nairobi (10.5%), and both Murang'a and Narok counties at 10.0 per cent each (Table 4.4). It was generally expected that use rates would be higher in Meru county and its environs where miraa and muguka were produced. It could be possible that the anecdotal users in Meru could be children who were out of school while the survey was restricted to pupils in school.

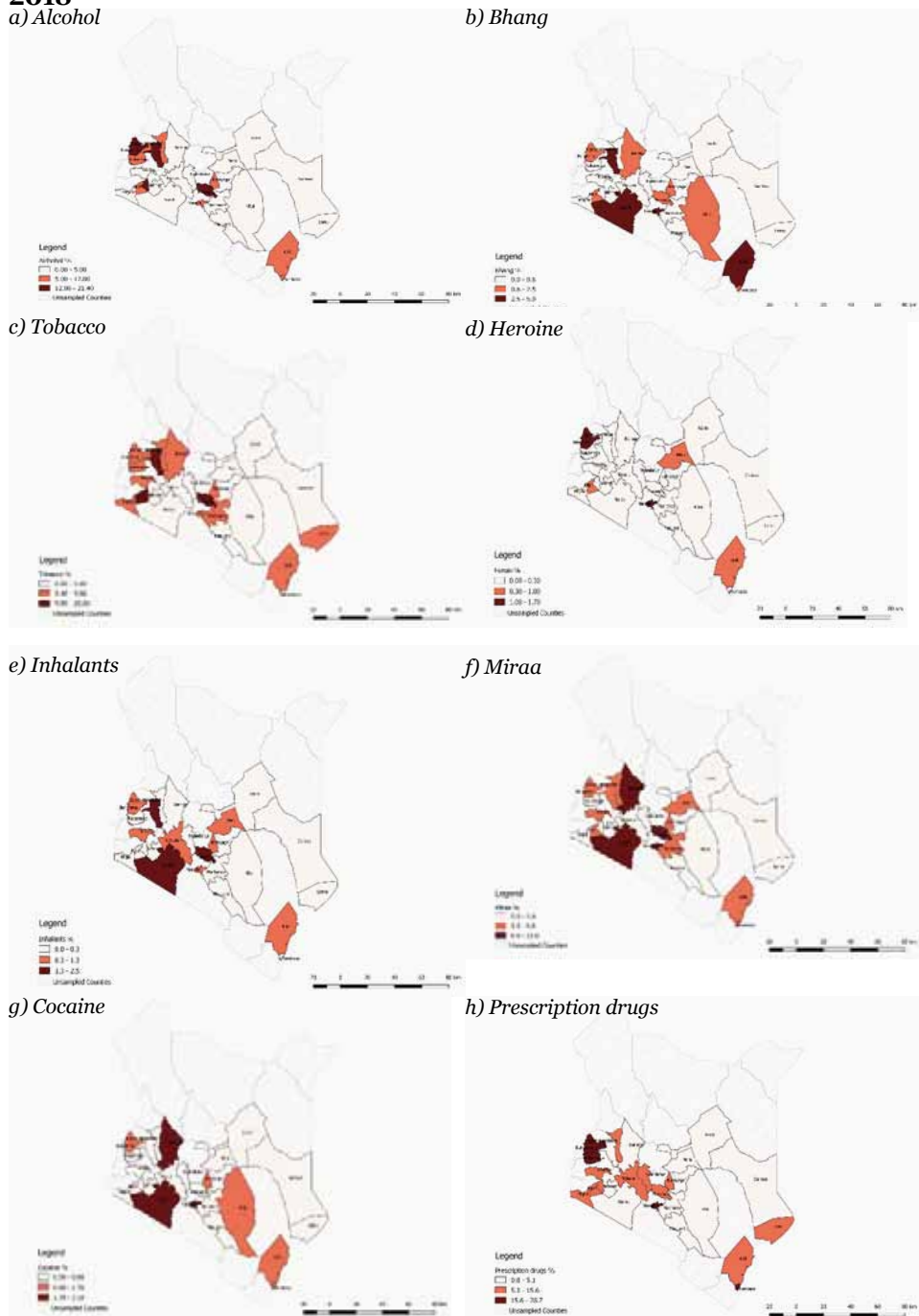
The lifetime use of prescription drugs was 10.4 per cent for the sampled schools. Lifetime use rates were highest in the cities and the Western region of the country. Nairobi had the highest self-reported lifetime use rate of 28.7 per cent. It was followed by Kakamega and Mombasa counties which had rates of 24.4 per cent and 21.7 per cent, respectively. These data on lifetime prevalence are replicated in spatial maps in Figure 4.1. As already discussed, counties exhibit varying prevalence rates across the drug types.

Overall, interventions would best target the whole country as one form of drug or another was prevalent in a county/region and there were noticeable emerging trends that may need to be monitored. One of the developing characteristics of ever use of drugs/substances was the relatively high lifetime prevalence of alcohol and tobacco use by pupils in regions where it was known to be initially low (at least among the adult populations). These include the counties in the larger western part of Kenya including Kisii and Bungoma (for alcohol ever use) and Kisii and Uasin Gishu for tobacco ever use. Another observation is the relatively high lifetime prevalence of miraa in the non-traditional regions including in Narok and Baringo counties.

Current use of drugs and substances of abuse among pupils

The results on current use of drugs indicate that current use (or use in the last thirty days) was lower than lifetime use among pupils suggesting that some of the pupils who reported "ever using" drugs or substances were not current users of drugs and substances of abuse (Table 4.4). Prescription drugs, alcohol and tobacco had the highest prevalence for reported current use by primary school pupils with respective proportions of 7.1 per cent, 3.2 per cent and 2.6 per cent. The current use of miraa/muguka and heroin were 2.3 and 1.2 per cent, respectively. Besides

Figure 4.1: Maps on life time use of drugs and substances of abuse (%), 2018



Source of data: Survey on drugs and substances of abuse in primary school in Kenya (2018) (n=3,268)

current use of cocaine, boys had higher “current use” of all the other types of drugs and substances of abuse examined (Table 4.4).

Urban areas had a larger proportion of reported use of alcohol than rural areas (2.7% and 1.8%, respectively). Even so, there were no significant differences in current use in rural versus urban areas for all the other drugs examined. An increase in the age cohort and grade of pupil was associated with an increase in the proportion of pupils reporting current use of any of the drugs/substances of abuse (Table 4.4). This is despite the earlier findings associating higher age and grade with higher levels of knowledge of drugs and substances of abuse.

County analyses

Current use of drugs and substances of abuse varied across counties and was higher among pupils in Nyanza region. Analysis on current use (last 30 days) of drug or substance of abuse is presented in Table 4.5 and maps in Figure 4.2. Uasin Gishu and Kisii counties had the highest rates for current use of alcohol with respective rates of 7.5 per cent and 6.0 per cent. Current use of tobacco among pupils was highest in Kisii, Nairobi and Kisumu with prevalence rates of 8.0 per cent, 7.7 per cent and 6.9 per cent respectively. Kirinyaga leads in the current use of inhalants with a prevalence rate of 5 per cent. Current use of miraa was highest in Kisii (5.0 per cent), Kisumu (4.5 per cent) and Meru (4.4 per cent) (Table 4.5). There would be need to monitor factors that were contributing to the current use of alcohol among pupils in Uasin Gishu, Kisii and Kisumu counties. Also, interventions to stem the tobacco use should include pupils in Kisii, Nairobi, Kisumu and Kirinyaga counties.

Among users of drugs/substances, the minimum reported age for the first time use of alcohol, tobacco and inhalants was 4 years (Table 4.6). For bhang and cocaine, the minimum reported ages for first time experimentation/use were 6 years and 10 years respectively. Based on their self-reporting, over 50 per cent of lifetime users among the primary school pupils had experimented with prescription drugs and sleeping pills at age 4 years. This was expected because most children must have used some prescribed drugs at an early age particularly given their availability in the event of any sickness. Of major policy concern was the fact that experimentation of drugs started very early in life of children.

The median age of first experimentation with drugs and substances of abuse varies across the various categories. The median experimental age for the drugs/substances was lowest for inhalants at 9 years and highest for cocaine at 13 years (Table 4.7).

Table 4.4: Last thirty days (current) use of drugs and substances of abuse among pupils, 2018

Background characteristic	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa/ Muguka	Prescription drugs	Average
Total (all pupils)	2.6	0.8	3.2	0.9	1.2	1.2	2.3	7.2	16.9
Location									
Urban	2.7	0.8	3.1	1.4	1.2	1.2	2.3	7.1	17.2
Rural	1.8	0.8	3.6	0.8	1.2	0.6	2.0	7.7	13.0
Sex									
Boys	2.8	1.0	3.5	0.9	1.3	1.3	2.7	7.3	16.8
Girls	2.4	0.7	2.8	0.9	1.1	1.0	1.8	7.0	16.6
Age									
8-13 years	0.0	0.0	3.2	0.9	1.3	1.3	2.3	7.2	15.6
14-16 years	3.0	0.64	2.7	0.9	1.0	1.0	2.0	6.9	18.3
17-20 years	2.5	1.0	7.2	1.2	1.4	1.3	4.9	9.4	23.4
Class									
Five (5)	1.7	0.2	1.7	0.3	0.4	0.6	1.2	6.2	22.4
Six (6)	2.7	0.8	3.3	0.7	1.1	1.5	3.1	7.4	21.0
Seven (7)	3.2	1.2	3.7	1.1	1.5	1.2	2.2	7.2	11.3
Eight (8)	2.6	1.1	4.0	1.4	1.9	1.4	2.6	7.9	10.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Table 4.5: Have you ever experimented or used any drug or substance of abuse in the last thirty days (current use) (%)

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Mirra	Prescription Drugs	Average
Baringo	0.0	0.0	2.5	1.0	0.0	0.0	0.0	0.0	3.1
Bomet	2.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2	5.1
Bungoma	4.3	1.0	4.7	0.7	1.7	2.3	2.7	12.7	19.1
Elgeyo Marakwet	2.9	0.0	0.0	0.0	0.0	2.9	2.9	5.7	11.4
Garissa	2.5	2.5	2.5	0.0	0.0	2.5	0.0	5.0	5.0
Isiolo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kakamega	1.7	1.4	3.1	1.4	1.4	1.7	2.8	9.4	11.3
Kilifi	4.5	1.5	6.0	2.5	2.6	2.0	1.5	12.1	16.6
Kirinyaga	3.8	1.3	6.3	1.3	0.0	5.0	2.5	8.8	15.0
Kisii	6.0	3.0	8.0	1.5	3.5	2.5	5.0	9.0	15.4
Kisumu	5.6	2.5	6.9	2.5	1.9	2.5	4.5	10.6	15.5
Kitui	1.1	0.0	0.0	0.6	0.0	1.1	0.0	0.0	1.7
Lamu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	21.7
Machakos	0.5	0.0	1.6	0.0	0.5	0.5	1.1	2.7	4.5
Makueni	0.6	0.6	1.1	1.1	0.6	0.6	0.6	4.5	5.6
Meru	0.4	0.4	1.8	0.0	0.4	0.9	4.4	4.0	8.3
Migori	1.1	1.1	5.5	1.1	1.7	0.6	4.4	9.9	13.8
Mombasa	0.0	0.0	1.7	0.0	0.0	0.0	0.0	10.0	11.7
Murang'a	3.3	0.8	0.8	0.0	1.9	0.0	0.8	3.3	8.3
Nairobi	3.5	0.0	7.7	4.2	1.4	0.0	3.5	12.6	22.2
Nakuru	1.3	0.0	0.0	0.0	0.0	0.0	0.0	3.8	4.9
Narok	1.5	1.9	2.5	1.4	0.0	1.0	0.0	2.1	9.2
Nyandarua	1.6	0.0	0.0	0.0	0.0	0.0	0.0	8.1	9.7
Uasin Gishu	7.5	0.0	0.0	0.0	0.0	0.0	2.5	2.5	6.7
Total	2.6	0.8	3.2	0.9	1.2	1.2	2.3	7.2	16.9

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Note: Nyamira was excluded because of its low coverage

Figure 4.2: Maps on current use of drugs and substances of abuse (%)

a) Alcohol



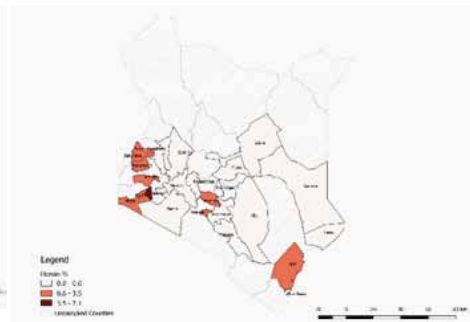
b) Bhang



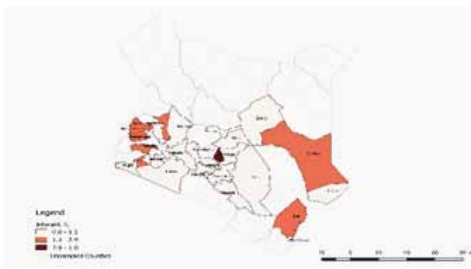
c) Tobacco



d) Heroine



e) Inhalants



f) Miraa



g) Cocaine



h) Prescription drugs



Source of data: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Table 4.6: Minimum reported age (in years) at first drug experimentation

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Miraa	Prescription Drugs	Average
Total (all pupils)	4	6	4	6	10	7	5	4	5.8
Location									
Urban	7	12	8	12	12	11	7	5	9.3
Rural	4	6	4	6	10	7	5	4	5.8
Sex									
Boys	4	6	7	6	10	8	8	4	6.6
Girls	4	6	4	13	12	7	5	4	6.9
Age									
8-13 years	4	8	4	6	10	7	5	4	6.0
14-16 years	4	6	5	14	12	11	6	5	7.9
17-20 years	7	6	15	nd	nd	nd	17	14	
Class									
Five (5)	5	8	9	12	nd	8	8	5	
Six (6)	5	nd	4	13	10	7	7	4	
Seven (7)	4	6	5	13	nd	11	9	4	
Eight (8)	4	6	4	6	10	7	5	4	5.8

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Note: nd means no data

Table 4.7: Median age (in years) at first drug experimentation

County	Alcohol	Bhang	Tobacco	Cocaine	Heroin	Inhalants	Mirra	Prescription Drugs	Average
Total (all pupils)	10	11	10	13	12	9	12	11	11.0
Location									
Urban	10	12	11	13	12	11	12	11	11.5
Rural	10	10	10	13	13	8	12	11	10.9
Sex									
Boys	10	12	10	12	10	9	12	10	10.6
Girls	10	10	11	13.5	12.5	7	12	11	10.9
Age									
8-13 years	10	12	10	13	13	8	12	10	11.0
14-16 years	10	10	10	14	12	11	12	12	11.4
17-20 years	10	6	15	nd	nd	nd	16.5	10	
Class									
Five (5)	10	12	11	12	nd	8	12	9	
Six (6)	10		10	13.5	12	9	12	11	9.7
Seven (7)	10	10	11	13	nd	11	12	11	
Eight (8)	10	11	10	6	nd	nd	11	12	

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018) (n=3,268)

Note: nd means no data

5 EFFECTS OF DRUG USE AND SUBSTANCE ABUSE

5.1 Overview

This section examines the effects of drug use on pupils focusing on correlation and regression analyses. From other empirical studies, we would expect that improper use or compulsive or excessive use of drugs and substances of abuse affects the normal function of the brain, leading to decline in concentration in class and therefore low education attainment. Drug and substance abuse was thus expected to impact negatively on school performance of pupils.

Studies have associated drug use with class repetition and in some cases school dropout. The concentration span of pupils who abuse drugs drastically reduces; therefore, boredom sets in much faster than for non-drugs and substance abusers. Pupils who abuse drugs tend to lose interest in school work, including extra curriculum activities. Loss of interest in schoolwork often results into absenteeism and repetition as learners take too long to complete studies within the stipulated period.

5.2 Effects of Drug and Substance Abuse on Class Repetition

The study sought to establish the effect and magnitude of drugs and substance abuse among pupils by estimating equations 2 and 3 discussed in the methodology. The marginal effects of the logistic regression are reproduced in Table 5.1.

On average, drugs and substance abuse was associated with an 18 per cent larger chance of class repetition among primary school pupils. This can be attributed to the fact that pupils who used drugs and or abuse substances at an early age were likely to have low academic performance and thereafter low education outcomes over time, leading to higher probability of class repetition and low progression across classes (Table 5.1).

Table 5.1: Marginal effects of class repetition on its correlates

Variables Individual Characteristics	Class repetition (1) Marginal effects - dy/dx (p values in parentheses)
Drug use (1=yes)	0.1801 (0.0000)*
Pupil sex (1=boy)	0.0254 (0.1800)
Age in years	0.0854 (0.0000)*
Location (1=Rural)	0.1182 (0.0000)*
Social economic status (pupil ever slept hungry, 1=Yes)	0.0514 (0.0110)*
No of Observation (Number of pupils who have ever repeated a class)	2,966

dy/dx is for discrete change of dummy variable from 0 to 1

Dependent variable is pupil ever repeated a class taking value 1= Yes; 0=No; p values in parenthesis; significant at 1 per cent (*) and 5 per cent (**)

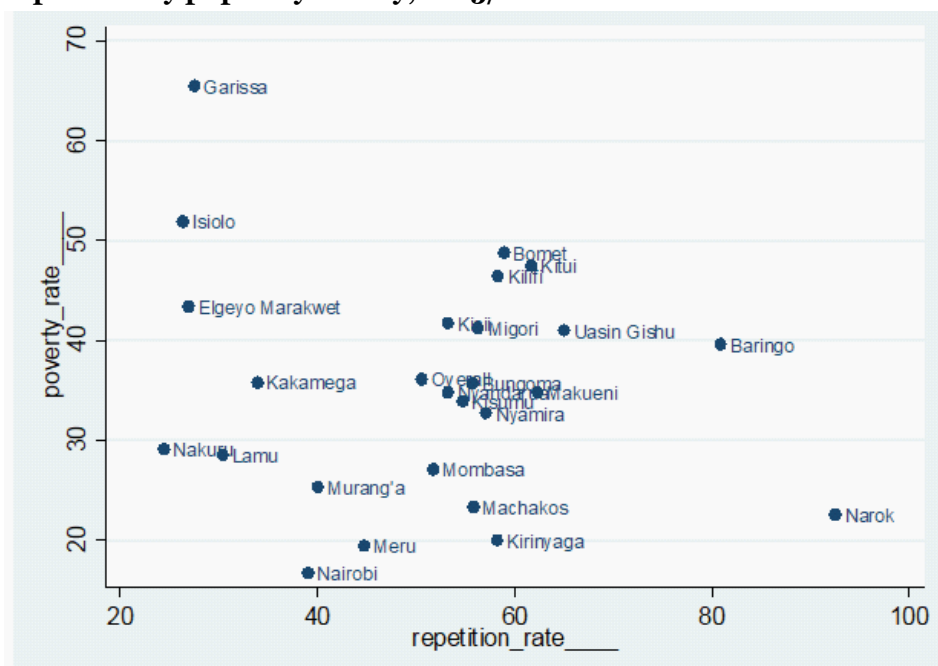
Other factors associated with class repetition were location, age and socio-economic status of pupils. This was also associated with type of economic opportunities available to households, and therefore their welfare status. The marginal effects showed that residing in rural areas significantly increases the probability of repeating. This was consistent with the view that in Kenya, academic performance was relatively higher in urban areas compared to rural areas, and therefore pupils in rural areas were more likely to repeat compared to their urban counterparts. An increase in age by one unit increases the chance of repeating a class by 8.5 per cent. The results indicate no significant difference between boys and girls with respect to repetition, with boys having a 2.5 per cent higher risk of repeating a class if they use any substance..

Class repetition among pupils does not seem to be positively correlated with poverty rates as shown in Figure 5.1. Some counties with the highest poverty rates (such as Garissa and Isiolo) have the lowest levels of reported class repetitions among girls.

5.3 Effects of Drug and Substance Abuse on Academic Performance

The use of drugs and substance abuse is associated with declining academic performance. Further, parental guidance leads to improvement in academic performance. As shown in Table 5.2, use of drugs and substances of abuse was associated with 6.4 per cent decline in academic performance among primary

Figure 5.1: Correlation between the poverty rate and reported class repetition by pupils by county, 2015/16



school learners. Parental guidance in academic areas was associated with 2 per cent improvement in academic performance and the effect was positive and significant (Table 5.2).

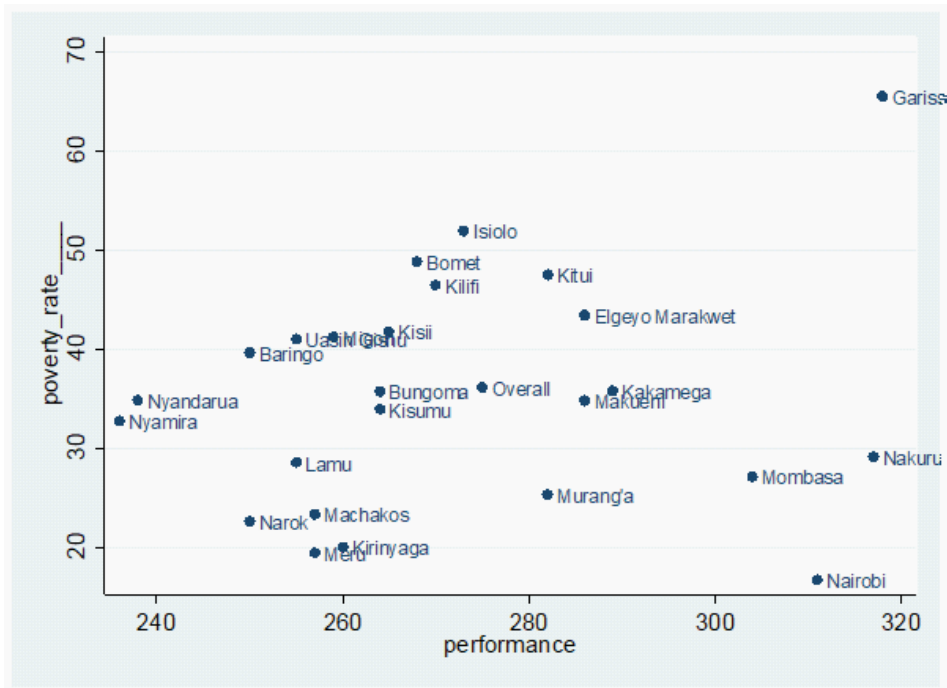
Table 5.2: Marginal effects of performance on its correlates

Variables	Mean score
Individual Characteristics	Coefficient
(p values in parentheses)	
Drug use (1=yes)	-0.0642 (0.0040)*
Pupil sex (1=male)	0.0121 (0.2170)
Age in years	-0.0132 (0.5980)
Age in years squared	-0.0002 (0.8500)
Location (1=Rural)	-0.0948 (0.0000)*
Parents provide academic guidance (1=yes)	0.0237 (0.0160)
Constant	5.7991 (0.0000)*
No. of Observation (Number of pupils)	2,966

dy/dx is for discrete change of dummy variable from 0 to 1; Dependent variable was pupil ever repeated a class taking value 1= Yes; 0=No; p values in parenthesis; significant at 1 per cent (*) and 5 per cent (**)

Poor school performance, absenteeism and increased school dropout were indicated as effects of drug abuse. These results were supported by explanations provided in the FGD/KII discussions across counties in the country.

Figure 5.1: Correlation between performance and the poverty rate by county



6 RISKS AND PROTECTIVE FACTORS ASSOCIATED WITH DRUGS AND SUBSTANCE ABUSE AMONG PRIMARY SCHOOL PUPILS

6.1 Risks Factors Associated with Drugs and Substance Abuse

A risk factor to drug and substance abuse can be defined as a factor shown to increase the likelihood of drug/substance abuse. These risk factors can be within or outside a family setup. Studies on drugs and substance abuse have examined the origins and pathways of drug abuse and the risk factors that increase the vulnerability to drug use and substance abuse. Further, there were also other risk factors that relate to the quality of children's relationships in settings outside the family, such as in their schools, with their peers, teachers, and in the community.

The study conducted tests of independence of observations on paired variables using the Pearson chi-squared test to examine the various risk factors. At least three tests were performed, including tests of statistical independence between: use of drugs/substances of abuse by a pupil and use of drugs/substances by a parent or guardian; negative peer influence on pupil; and economic status of pupil. The null hypothesis is that the occurrence of the outcomes of interest was statistically independent of drugs and substance abuse. This hypothesis is rejected if the probability associated with the Pearson chi-squared statistics is less than 0.05 or 5 per cent. A rejection of the null hypothesis would suggest the paired outcomes do have a statistical association or relationship.

One of the risk factors within a family set up was the reported drugs and substance abuse by a parent or guardian. Specifically, children from families where one or both parents/guardians use drugs/substances were also more likely to do the same. Using the survey data, it was found that for the group that reported that their parents use a drug, the ever use rate for at least 1 drug was about 24.2 per cent relative to about 19.6 per cent among the pupils whose parents do not use drugs. The Pearson statistic indicates that there was an association between the ever use of a drug by a pupil and reported use by a parent/guardian (Table 6.1).

Table 6.1: Pearson chi-squared test, parent use of drug and pupil use of any drug

Parent or guardian use drug	Pupil use any drug		
	No	Yes	Total
No	0.060	0.147	0.747
Yes	0.192	0.061	0.253
Total	0.792	0.208	1

Pearson: Uncorrected $\chi^2(1) = 6.525$

Design-based $F(1,2722) = 5.726, P = 0.017$

Weak parental relationship or attachment and control are associated risk factors to drugs and substance abuse. The absence of attachment to a parent/guardian tends to expose children to strong influence from peers who may be drug abusers. In addition, parents who consume a great deal of alcohol/drugs have been shown to exhibit reduced parental monitoring of the activities of their children, and this has led to stress and negative effects among their children. In households where a parent uses a drug, children tend to be exposed to availability of the consumed drug.

Evidence suggests that negative peer influence was strong and pupils who reported that they knew a friend or schoolmate who uses a drug were more likely to have ever used a drug. Those who knew a drug/substance user or abuser had a 31 per cent chance of ever using at least one drug, compared to 16 per cent for the group who did not know any user or abuser. The Pearson chi-squared results show that there was a statistical association between pupils who reported that they knew a friend or schoolmate who used a drug and the ever use of at least one type of drug (with a p-value of 0.0001). It is known that association with drug-abusing peers is often the most immediate risk for exposing adolescents to drug abuse and delinquent behaviour. This is expected since for most young persons, the first interactions with drugs/illicit substances occur as they relate with their friends especially in social situations. Those who are curious were likely to experiment and in cases where friends promote the use of drugs, a child may move from experimentation to addiction.

There was no significant statistical association between drug use and economic status. The study analyzed whether economic status could be a risk factor in the use of drugs or substances of abuse, by comparing two groups of pupils. These were pupils who reported that during the last seven (7) days they never slept hungry, and those who reported that they did go hungry sometime, or most of the times or

always. The results indicate that there is no statistical association between drug use and this proxy of economic status (p value of 0.679). This would be expected based on anecdotal evidence suggesting that both wealthy and less wealthy communities/individuals were affected by use of drugs and substances of abuse.

Some of the other risk factors identified were family conflicts or dysfunctions – where youth from disrupted families tend to get involved in substance abuse; advertisement of drugs in TVs and Radio stations – which can tempt the pupils to experiment; and involvement of parents in drug use and selling. Additional risk factors captured during the FDGs and KIIs included: failure of some teachers to be good role models; influence from elder brothers and sisters involved in drugs abuse; affordability – especially the sale of drugs in small quantities; laxity within those in authority to enforce laws; existence of bars near schools; and government failure to arrest drug dealers.

6.2 Protective Factors

Protective factors reduce the likelihood of a person engaging in drugs and substance abuse. An important goal of prevention is to change the balance between risks and protective factors and to ensure protective factors outweigh the risk factors. At the organizational level or school level, protective factors include the existence of clear policy environments (on drug use and substance abuse) and the consistent application or implementation of these policies. At the family or individual level, protective factors may include: strong and positive family bonds, parental monitoring of children's activities and peers, clear rules of conduct that were consistently enforced within the family, and involvement of parent in the lives of their children. Strong bonds with institutions, such as religious organizations, sports clubs or study groups are also known to be protective factors. The approach was to document the status regarding these protective factors as reported by school and pupils and to perform measures of association of these factors and drug use.

Half of the school heads indicated that their respective schools do not have a written policy on drugs or substance abuse. In schools where such a policy exists, most school heads indicated that the policies were comprehensive (69%), clear (81%) and consistently applied (74%). It emerges that there is need to put in place written policies in nearly half of all the primary schools and to make them comprehensive in about 40 per cent of schools where the heads admitted that their policies were not comprehensive (Table 6.2).

Table 6.2: Views of public primary school heads on aspects of the policy environment on drugs and substances of abuse

	Total (%)		Rural (%)		Urban (%)	
	Yes	No	Yes	No	Yes	No
a) Does your school have a written policy on drugs/substance abuse? (alcohol, tobacco e.t.c)?	50.4	49.7	51.2	48.8	43.8	56.3
b) If yes is it comprehensive? (In your opinion)	69.2	30.8	68.6	31.4	75.0	25.0
c) In your opinion, is it clear?	80.8	19.2	80.0	20.0	87.5	12.5
d) Is the policy consistently applied?	74.4	25.6	72.9	27.1	87.5	12.5
e) Is the policy known and understood by the pupils, parents and teachers?	81.1	19.0	80.3	19.7	87.5	12.5

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

The use of at least one drug/substance and the protective factors, tests of independence of observations on paired variables was examined using the Pearson chi-squared test. The null hypothesis is that the occurrence of the outcomes of interest were statistically independent. This hypothesis is rejected if the probability associated with the Pearson chi-squared statistics is less than 0.05 or 5 per cent.

A pupil's association with a religious group does not seem to offer the expected protection as the proportion of pupils who had ever used at least one drug/substance was higher for this group (25%) relative to the pupils who were not members of any religious group (19%). There was evidence of statistical association between being an active member of a church, mosque or temple and drug use (with a P-value of 0.00). In a similar vein, being a member of a sports club or study group did not seem to protect pupils from ever use of drugs and substances of abuse – relative to pupils who were not members.

There was a difference between pupils who reported that they accompany their parents to events where alcohol or any other drug were served and those that do not. The key difference is that those who accompany their parents to such events have a higher proportion of pupils who ever used at least one drug or substance of abuse (with an ever use proportion of 43% relative to 20 per cent for the other pupils). This seems to suggest that parental action of not being accompanied to an event that exposes a pupil to an environment where drugs are used is likely to be a key protective factor.

Teachers offering guidance and counseling to pupils, public awareness such as sign boards (no smoking zones), modules/topics on effects of drugs and substance abuse, prohibition of teachers from smoking within the school compound and involving

resource persons to talk with pupils about the effect of drugs and substances abuse were identified as some protective factor or measures from FGDs and KIIs.

Not all the identified protective factors were well established in a significant proportion of primary public schools. Based on feedback from school heads, about half of the visited schools did not have a functioning guidance and counselling department (Table 6.3). Only about one in every four schools had a functioning guidance and counseling trained teacher while about one in every six schools had a functioning guidance and counselling room. Functional playgrounds were available in about half of the schools. Facilities for indoor games were largely absent as these were available and functioning in less than one out of every ten schools. The absence of these mitigating/protective factors were likely to predispose pupils to a number of vices, including drug use and substance abuse.

6.3 Predictors of Drugs and Substance Abuse among Primary School Pupils

Friends and schoolmates having drugs, and availability of alcohol at home were found to be best predictors of drug and substance abuse among primary school pupils. This finding confirms the role of negative peer influence and easy accessibility to drugs and substances of abuse as key risk factors in promoting use of drugs and substances of abuse. Friends/school mates having drugs (and accompanying peer influence) was associated with 4.7 per cent higher probability of using drugs while alcohol availability at home was associated with, on average, 8.0 per cent probability of using drugs and substances of abuse among primary school pupils. Strong parental guidance had a negative and significant effect in reducing the probability of using drugs and substances of abuse by 3.1 per cent, suggesting that parental guidance was a strong protective measure in curbing drug and substance abuse among learners (Table 6.4).

Table 6.3: Availability of departments, facilities/installations in schools, 2018

	Available	Available and functioning	Not Available	Available	Available and functioning	Not Available	Available	Available and functioning	Not Available
	Total	Rural	Urban						
Guidance and counseling department	51.8	47.6	0.6	51.4	47.9	0.7	54.6	45.5	0.0
Guidance and counseling trained teacher	41.9	26.9	31.3	41.4	25.0	33.6	47.0	40.0	15.0
Guidance and counseling room for pupils	28.8	15.4	55.2	27.5	12.0	59.9	38.1	38.1	23.8
School playground	44.5	48.2	7.3	45.8	46.5	7.8	36.4	59.1	4.6
Facilities for indoor games	10.9	8.3	10.8	11.2	8.2	80.6	9.1	9.1	81.8

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Table 6.4: Marginal effects of predictors of drug use and substance abuse

Variables	
Individual Characteristics	Drug use and substance abuse (1)
Marginal effects - dy/dx	
(p values in parentheses)	
Pupil sex (1=male)	-0.0001 (0.9860)
Age in years	0.0239 (0.3480)
Age in years squared	-0.0009 (0.3700)
Location (1=Rural)	0.0096 (0.2740)
Schoolmates have drugs	0.0476 (0.0020)*
Pupil has knowledge about drugs	0.0098 (0.2770)
Home Characteristics	
Availability of alcohol at home (1=yes)	0.0804 (0.0000)*
Parents provide academic guidance (1=yes)	-0.0309 (0.0000)*
No of Observation (Used at least one drug in the last 30 days)	2,691

dy/dx is for discrete change of dummy variable from 0 to 1

Dependent variable was pupil used drug in the last 30 days taking value 1= Yes; 0=No; p values in parenthesis; significant at 1 per cent (*) and 5 per cent (**)

7. DRUG REFUSAL, ASSERTIVENESS AND SELF-CONTROL SKILLS

This chapter focusses on assessing the ability of primary school pupils to refuse an offer of drugs/substances of abuse. This ability was assessed in relationship to knowledge on drug misuse prevention, susceptibility to negative peer influence, self-esteem and an internal locus of control.

7.1 Drug Refusal Skills

Developing drug refusal skills was the best line of defense mechanism to avoid further substance abuse. Drug refusal skills are methods and strategies for saying 'no' to drugs and can help to avoid situations a person does not want to be part of, or prevent a recovering addict from relapsing. Knowledge on drug misuse prevention can also enhance refusal skills among children and adolescents. Poor alcohol refusal skills can lead to lower grades, more risk-taking, less competence, and more alcohol use.

Nearly 60 per cent of pupils would say no when someone tries to get them to smoke a cigarette, suggesting relatively strong refusal skills among most of the

Table 7.1: Proportion of pupils that would say no if offered to smoke a cigarette

		Definitely I would	Probably I would	I am not sure	probably I would not	Definitely I would not
	Total	59.4	13.4	7.9	7.7	11.7
Location	Rural	59.2	12.7	8.4	7.7	12.1
	Urban	60.6	17.5	5.2	7.9	8.8
Gender	Male	58.2	14.6	8.5	7.2	11.5
	Female	60.6	12.0	7.4	8.2	11.8
Age	8-13 years	60.6	12.4	8.2	7.1	11.7
	14-16 years	57.4	15.3	6.9	8.6	11.8
	17-20 years	56.5	11.4	14.0	8.1	10.0
Class	Std 5	58.0	11.0	10.8	8.1	12.1
	Std 6	60.4	13.3	7.9	6.6	11.8
	Std 7	61.4	12.7	0.8	7.5	11.3
	Std 8	58.0	16.6	5.7	8.5	11.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

pupils (Table 7.1). Girls had a slightly higher proportion among the pupils saying a definite no (61%) relative to boys (58%). Reported refusal seemed to decline with age, with older children having lower proportions of refusal. Pupils from urban areas were more likely to say no when offered a cigarette than those in rural areas.

A lower proportion of pupils would say no when someone tries to get them to drink beer, wine or liquor compared to cigarette smoking (Table 7.1 and 7.2). Girls had a slightly higher proportion among the pupils saying a definite no (56%) relative to boys (54%). Pupils in urban areas had a larger proportion of pupils responding with a definite no (60%) relative to rural pupils (54%). Reported refusal seemed to increase with grade level (Table 7.2).

Table 7.2: Proportion of pupils that would say no to alcohol

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
	Total	55.1	19.0	5.8	8.7	11.4
Location	Rural	54.4	18.9	6.1	8.9	11.8
	Urban	59.5	19.7	4.3	7.4	9.1
Gender	Male	54.0	20.0	6.7	8.5	10.8
	Female	56.3	17.9	4.9	8.9	12.0
Age	8-13 years	56.3	17.9	5.8	8.4	11.7
	14-16 years	53.4	21.0	5.4	9.0	11.3
	17-20 years	49.1	22.5	11.3	10.2	6.9
Class	Std 5	49.5	24.1	7.6	8.1	10.9
	Std 6	55.4	20.2	6.1	7.7	10.7
	Std 7	59.0	13.8	5.4	8.6	13.2
	Std 8	57.9	16.3	3.8	10.8	11.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Majority (55%) would say no to smoking bhang when given to them. A larger proportion of pupils in urban areas would refuse (59.9%) relative to those in rural areas (54.4%). The proportion of class 5 pupils who would say no was 49.5 per cent against that of class 7 pupils at 59.0 per cent, class 8 at 57.8 per cent and class 6 at 55.4 per cent. On average, a larger proportion of girls (56 %) would say a definite no relative to boys (54%).

Table 7.3: Proportion of pupils that would say no to smoking bhang

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
	Total	55.1	19.0	5.8	8.7	11.4
Location	Rural	54.4	18.9	6.1	8.9	11.8
	Urban	59.5	19.7	4.3	7.4	9.1
Gender	Male	54.0	20.0	6.7	8.5	10.8
	Female	56.3	17.9	4.9	8.9	12.0
Age	8-13 years	56.3	17.9	5.8	8.4	11.7
	14-16 years	53.4	21.0	5.4	9.0	11.3
	17-20 years	49.1	22.5	11.3	10.2	6.9
Class	Std 5	49.5	24.1	7.6	8.1	10.9
	Std 6	55.4	20.2	6.1	7.7	10.7
	Std 7	59.0	13.8	5.4	8.6	13.2
	Std 8	57.9	16.3	3.8	10.8	11.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Most pupils (56%) would say no to cocaine use, when offered. Pupils from urban areas had a higher proportion of those saying no once when offered cocaine compared to their counterparts in rural areas at 59 per cent and 56 per cent, respectively. Boys had a lower proportion among those responding with a definite no (55.3%) relative to girls (57.0%). Class 7 and 8 pupils are likely to say no to cocaine with a proportion of nearly 60 per cent relative to class 5 pupils at 52 per cent. This can be attributed to improved knowledge on the harmful effects of the substances of abuse at higher levels of education and as the pupils grow older.

Table 7.4: Proportion of pupils who would say “no” to use of cocaine or other drugs (%)

		Definitely I would	Probably I would	Am not sure	Probably I would not	Definitely I would not
	Total	56.1	18.5	6.3	7.8	11.3
Location	Rural	55.7	18.4	6.4	7.9	11.7
	Urban	58.8	19.4	5.6	7.4	8.9
Gender	Male	55.3	20.0	6.4	7.7	10.6
	Female	57.0	16.8	6.2	7.9	12.0

Age	8-13 years	57.8	16.5	6.6	7.5	11.6
	14-16 years	53.7	21.5	5.4	8.3	11.1
	17-20 years	49.5	26.8	10.6	7.2	6.0
Class	Std 5	52.3	22.3	7.8	7.1	10.6
	Std 6	54.0	21.0	7.3	6.7	11.0
	Std 7	60.2	13.0	5.8	5.8	12.5
	Std 8	59.2	16.3	3.7	3.7	11.6

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Majority of pupils would be tempted to use any drug if an opportunity arose; about 25 per cent of the pupils indicated they definitely would not. Urban and rural rates were 23 per cent and 25 per cent, respectively. Although 38 per cent of the pupils indicated that they definitely would be tempted to use any drug, it is possible that a significant proportion of these pupils may have misunderstood the question.

Table 7.5: Proportion of pupils who would be tempted to use drugs if an opportunity arises

		Definitely I would	probably I would	I am not sure	probably I would not	definitely I would not
	Total	37.7	17.1	8.7	11.8	24.8
Location	Rural	37.6	17.4	8.6	11.3	25.0
	Urban	38.4	14.6	9.0	14.9	23.1
Gender	Male	35.6	18.4	9.6	12.3	24.1
	Female	40.0	15.6	7.7	11.2	25.5
Age	8-13 years	40.0	15.6	8.6	10.7	25.2
	14-16 years	34.5	19.6	8.2	13.3	24.4
	17-20 years	29.4	20.3	15.5	17.1	17.8
Class	Std 5	40.4	22.4	8.7	9.8	18.9
	Std 6	39.2	20.0	8.5	11.2	21.1
	Std 7	36.1	11.3	9.7	11.9	31.0
	Std 8	34.2	12.7	7.9	14.8	30.4

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

7.2 Drug Assertiveness Skills

Assertion enables an individual to express their thoughts, feelings and values about a situation openly and directly with due regard for the other persons feelings and values. The skill focuses on the rights of the individual with consideration of the rights of others. As such, it is an important skill in social situations that involve pressure to use unwanted drugs, use drugs at an unsafe level or in a harmful way.

Assertiveness skills have been associated with substance disorders; persons with substance disorders quite often turn to alcohol or other substances to reduce tension and anxiety associated with stressful interpersonal situations. Therefore, assertiveness and training programmes have been developed for individuals with substance use disorder who were anxiety-prone and exhibit deficiencies in interpersonal skills.

Pupils exhibited relatively low level of assertiveness (Table 7.6). To examine assertiveness skills, pupils were asked four questions relating to how they would respond to given circumstances. Forty-three (43) per cent indicated they would definitely tell someone they had received less change from them after a purchase/ payment. Pupils in rural areas were less likely to take less change after they pay for something relative to their counterparts in the urban areas with proportions of 44 per cent and 41 per cent, respectively.

Table 7.6: Proportion of pupils who would voice their opinion when given less change (following a purchase)

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
	Total	35.3	20.5	13.4	10.9	19.8
Location	Rural	43.9	20.5	9.2	9.1	17.4
	Urban	40.5	12.2	9.9	11.7	25.7
Gender	Male	41.6	19.3	10.5	9.6	19.1
	Female	45.4	19.7	7.9	9.3	17.8
Age	8-13 years	44.2	17.4	10.6	8.9	18.9
	14-16 years	42.0	22.6	6.8	10.4	18.3
	17-20 years	43.3	26.0	10.4	7.1	13.2

Class	Std 5	41.4	24.7	9.5	8.5	16.1
	Std 6	41.4	23.2	10.1	8.2	17.2
	Std 7	46.1	13.7	8.8	10.2	21.3
	Std 8	45.8	14.2	8.5	11.3	20.2

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

Majority of the students would give money if someone was to borrow from them given that 35 per cent of the pupils would definitely say no. The respective proportions for pupils in urban and rural areas that would say no were 32 per cent and 35 per cent, respectively. Girls exhibited larger proportions than boys with respective rates of 38 per cent and 33 per cent, respectively.

Table 7.7: Proportion who would say No to someone who asks to borrow money from them (%)

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
	Total	35.3	20.5	13.4	10.9	19.8
Location	Rural	35.8	21.8	12.8	10.8	18.8
	Urban	31.8	11.3	17.7	12.0	27.3
Gender	Male	33.1	21.9	14.2	11.1	19.8
	Female	37.7	18.9	12.7	10.8	19.9
Age	8-13 years	36.2	19.6	13.5	10.4	20.2
	14-16 years	33.5	21.7	13.2	11.9	19.7
	17-20 years	34.5	26.4	17.0	6.9	15.2
Class	Std 5	36.5	26.7	11.6	9.3	15.9
	Std 6	34.8	23.6	13.7	9.3	18.6
	Std 7	34.8	14.9	14.9	11.6	23.8
	Std 8	34.9	14.5	14.1	14.2	22.4

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

A moderate proportion (53%) of the pupils indicated they would tell someone to go to the end of the line if they tried to cut in ahead of them. Girls had a higher proportion than boys with respective rates of 44 per cent and 40 per cent. Pupils in rural areas had a proportion of 42 per cent relative to their urban counterparts with a proportion of 38 per cent.

Table 7.8: Proportion who would tell someone to go to the end of the line if they tried to cut in ahead of them

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
	Total	52.5	13.1	6.1	10.0	18.4
Location	Rural	42.3	14.9	10.9	11.2	20.8
	Urban	37.6	13.4	9.3	14.2	25.5
Gender	Male	39.7	14.6	10.6	12.1	23.0
	Female	43.8	14.8	10.8	11.1	19.6
Age	8-13 years	42.3	14.5	11.0	10.8	21.4
	14-16 years	40.3	14.7	9.9	12.8	22.3
	17-20 years	39.7	20.8	13.3	10.8	15.3
Class	Std 5	43.7	15.9	12.2	10.6	17.7
	Std 6	41.3	13.6	11.3	11.6	22.2
	Std 7	41.3	13.4	9.8	11.4	24.1
	Std 8	40.0	15.9	9.3	12.9	22.0

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

There was a significant reduction in the probability of using a drug in the last thirty days by nearly 2 per cent among the assertive group relative to the non-assertive group. The study assessed whether assertiveness skills would translate into observed change in actual drug use. To test this possibility two groups of pupils were fashioned i.e. those who would say a definite no to someone who offers them any drug and others who (probably would, not sure probably would not or definitely would not). This variable was included in the predictors of drug use regression model.

7.3 Drug Relaxation Skills

Relaxation techniques are helpful in managing a variety of health conditions including psychological conditions associated with drugs and substance abuse. To gauge the relaxation skills of the pupils whenever they experienced anxiety, pupils were asked about two common relaxation skills that individuals may perform when feeling anxious. These were relaxation of muscles and breathing in slowly. Overall, about 37 per cent of pupils indicated they would “definitely relax” all their muscles when anxious. The proportion for rural based pupils was larger than that of their

urban counterparts with respective rates of about 38 per cent and 33 per cent. The Std 8 pupils were more likely to use the relaxation method to calm down at 41 per cent compared to their counterparts in other classes at 37 per cent for class 7, 36 per cent for class 5 and 35 per cent for class 6.

Table 7.9: Proportion of pupils who would relax all the muscles when anxious

		definitely I would	probably I would	I am not sure	probably I would not	definitely I would not
Location	Rural	37.9	22.8	14.2	9.3	15.8
	Urban	32.7	19.8	18.1	9.8	19.6
Gender	Male	36.0	23.1	15.1	9.6	16.3
	Female	38.6	21.8	14.2	9.0	16.3
Age	8-13 years	37.6	21.2	16.2	8.1	16.9
	14-16 years	36.2	24.4	12.3	11.3	15.8
	17-20 years	40.9	26.9	10.3	11.1	10.8
Class	Std 5	36.3	28.5	14.2	6.9	14.1
	Std 6	34.9	24.5	15.0	9.1	16.5
	Std 7	37.4	17.2	17.2	8.8	19.4
	Std 8	41.0	17.5	12.5	13.3	15.8
	Total	37.3	22.4	14.7	9.3	16.3

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

A low number, 33 per cent, of pupils indicated they would breathe in slowly as a way of relaxation. The respective rural and urban proportions were 34 per cent and 30 per cent. This form of relaxation skill was highest among class 8 pupils (36.3%) followed by class 7 with 34.5 per cent, class 6 (33.0%) and class 5 with 30.7 per cent.

Table 7.10: Proportion of pupils who would breathe in slowly when anxious

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
Location	Rural	33.9	20.4	15.5	11.6	18.6
	Urban	30.2	17.6	17.4	11.9	22.8

Gender	Male	32.3	21.9	16.1	10.5	19.2
	Female	34.7	18.1	15.4	12.9	19.0
Age	8-13 years	33.4	19.6	16.2	10.6	20.3
	14-16 years	33.3	20.5	15.1	13.6	17.6
	17-20 years	31.0	26.9	14.2	10.6	17.3
Class	Std 5	30.7	27.4	14.7	10.1	16.6
	Std 6	33.0	21.2	16.1	10.9	18.9
	Std 7	34.5	14.8	19.3	10.5	20.9
	Std 8	36.3	13.9	13.3	15.5	21.0
	Total	33.4	20.1	15.8	11.7	19.1

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

7.4 Self-control Skills

About 36 per cent of the pupils indicated that they would quit a difficult situation while on the extreme end about 17 per cent indicated they would not quit. Self-control skills and strategies were cognitive and behaviour skills used by individuals to maintain self-motivation and achieve personal goals. Initially, the skills may be learned from therapy, text or self-help book. Pupils were asked if they would yield to frustration and quit if they encountered a difficult situation or alternatively stick to what they were doing until they were finished with it despite the difficulties. These results were indicative of the need to boost self-control skills further.

Table 7.11: Proportion of pupils who would quit a difficult situation

		Definitely I would	Probably I would	I am not sure	Probably I would not	Definitely I would not
Location	Rural	32.7	22.0	13.6	11.1	20.6
	Urban	31.6	12.3	18.5	11.8	25.8
Gender	Male	31.1	21.5	14.2	11.7	21.5
	Female	34.2	19.9	14.3	10.6	21.0
Age	8-13 years	34.3	18.9	15.4	10.4	21.0
	14-16 years	30.0	23.6	12.3	12.2	22.0
	17-20 years	28.8	30.5	12.9	15.0	12.9

Class	Std 5	31.3	26.9	14.3	9.8	17.7
	Std 6	34.8	23.5	14.1	9.2	18.4
	Std 7	33.2	15.6	16.7	11.3	27.3
	Std 8	31.2	15.0	11.7	15.2	26.9
	Total	35.7	18.4	15.5	8.9	17.4

Source: Survey on Drugs and Substances of Abuse in Primary School in Kenya (2018)

8. CONCLUSION AND IMPLICATIONS FOR POLICY

8.1 Conclusion

Drug and substance abuse, especially among young persons, is a growing socio-economic and policy challenge associated with various problems including physical body problem, emotional damage, decline in education achievement and productivity; distortion of memory, perceptions and sensations; decrease in physical endurance; brain damage and even death, and hence has negative long-term effects on society. Despite government efforts to intervene at school level, there is limited evidence on knowledge of learners, especially primary school pupils, about drugs and substance abuse. The main objective of this study was therefore to conduct an assessment on knowledge, attitudes and practices of drugs use and substances of abuse among public primary school pupils in Kenya; evaluate the extent of availability and access to drugs and substances of abuse; determine the prevalence levels; document the risks and protective factors associated with drugs and substance abuse; and establish the extent of drug refusal, assertiveness, relaxation, self-control and parenting skills influence among primary school pupil in Kenya. A total of 3,307 pupils from 177 schools in 25 counties were interviewed.

A large proportion of pupils had knowledge of the commonly abused drugs and substances of abuse in the country. Majority of the pupils considered alcohol, bhang, tobacco, cocaine, heroin, inhalants, and miraa to be drugs. Pupils in schools located in urban areas exhibited higher level of knowledge compared to their rural counterparts with respective rates of 89 per cent and 83 per cent. Also, knowledge increased with age and grade of the pupils. Although knowledge of types of drugs and substances of abuse were generally high across the counties (most exceeding 80%), there were specific drugs and substances of abuse for which the level of knowledge was low across regions. Alcohol and tobacco had the highest affirmative response of 84 per cent and 89 per cent, respectively, while prescription medicine and miraa had the least affirmative response at 55 per cent and 68 per cent, respectively. Male and female proportions were just about equal with an overall average of about 74 per cent for each sex.

A larger proportion of pupils, ranging from about 58 per cent (for tobacco) to 83 per cent (for heroin) indicated that the drugs/substances were not readily available in or around their school environment. The most readily available drugs were tobacco, prescription drugs, and alcohol which were reported to be readily available by 42 per cent, 28 per cent and 26 per cent of the pupils, respectively.

Between 84 per cent (for prescription drugs) and 97 per cent (for heroin) of pupils thought that getting the various drug types was “impossible” or “difficult” in their school environment. About 16 per cent and 4 per cent of the pupils knew schoolmates or friends who used the various listed drugs and substances of abuse. Tobacco and alcohol were reportedly the most used drugs by parents/guardians and these were used by about 15 per cent and 14 per cent of parents/guardians, respectively. The shops/kiosks near the school and bars near school were the main sources of drugs/substances.

Lifetime use was highest for prescription drugs; alcohol and tobacco were the highest among primary school pupils. The prevalence data indicates relatively high drug consumption among pupils in Nyanza and Western belt of Kenya. This was indicative of the need to curtail emergence of a drug use culture in these areas. Prescription drugs, alcohol and tobacco had the highest prevalence for reported current use by primary school pupils with respective proportions of 7.1 per cent, 2.8 per cent and 3.2 per cent, respectively. The use of prescription drugs seems to be spread across all regions, with Lamu having the highest reported rate of 22 per cent.

The age of first experimentation of drugs and substances of abuse varies across the various categories of drugs – and was about 4 years for alcohol, tobacco and prescription drugs and highest for heroin at 10 years. These relatively low ages suggest the need to implement interventions early in life – both at home and at the school environments.

Drugs and substance abuse contributed to low academic performance among primary school pupils. It is associated with a higher chance of grade repetition of 18 per cent among primary school pupils. In terms of performance, the effect of drug use was negative, and it was estimated that use of drugs was associated with a 6.4 per cent lower scores, on average.

On risk and protective factors, the study established that negative peer influence and easy accessibility to drugs and substances of abuse were key risk factors in promoting use of drugs and substances of abuse. Class mates having drugs and availability of alcohol at home were the top predictors of drugs and substance abuse among primary school pupils. Parental guidance had a negative and significant effect in reducing the probability of using drugs and substances of abuse.

Although about 60 per cent of pupils reported that they had strong drug refusal skills and would say ‘no’ to an offer to take drugs and substance of abuse, there is room to enhance these skills especially among the lower grades.

8.2 Recommendations

Based on the findings of this assessment, the following recommendations are made:

- i) NACADA in collaboration with other relevant stakeholders could target primary schools with sensitization on knowledge of drugs and substances of abuse and their potential harm. Further, there is need to enhance the anti-smoking and anti-drinking attitudes especially at the lower grades to counter their relatively higher admiration to the usage of these drugs and substances of abuse.
- ii) NACADA in collaboration with county governments, Ministry of Health and other relevant enforcement agencies could enhance efforts towards lowering access and availability of drugs and substances of abuse among primary school pupils. These could include:
 - Enforcement of guidelines on establishment/construction of structures (including business premises and bars) near schools;
 - Enforcement of the ban on sale of cigarettes in single sticks;
 - Sensitization of parents/guardians on the risks of keeping drugs at home; being accompanied to drug consumption facilities by underage children; and exposure of under-age children in the sale of drugs and substances of abuse.
- iii) NACADA in collaboration with the Ministry of Education need to strengthen life skills programmes for children to promote abstinence and delaying of drug and substance abuse and in particular the assertiveness and refusal skills.
- iv) NACADA in collaboration with the Ministry of Education and other relevant stakeholders could enhance and advocate for protective factors in public primary schools. These include:
 - Streamlining the policy environment in schools by promoting the establishment of institutional-based drugs and substance abuse prevention policies.
 - Setting up or kick starting functional guidance and counselling departments with well-trained teachers.
 - Establishment of sobriety clubs in schools with clearly defined guidelines of operation.
 - Streamline, in collaboration with the Pharmacy and Poisons Board, the operations of pharmaceutical drugs selling outlets by developing

and enforcing strict guidelines on the distribution, storage and sale of prescription drugs in Kenya.

- NACADA in collaboration with the Ministry of Education other relevant stakeholders could facilitate establishment of a legal framework and structures for introduction of drug testing in schools.

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Annex

Annex Table 1: Empirical literature review on status and effects of drug use and substance abuse

Author (date) and title of the paper	Objectives of the study	Coverage	Theoretical framework	Empirical model (equation, variables, source of data)	Policy implications/ Recommendations	
			Results			
Ministry of Health (2003) Global School-based Pupil Health Survey.	To measure alcohol and other drug use; sexual behaviors that contribute to HIV infections, other STIs, and unintended pregnancies; unintentional injuries and violence; hygiene; dietary behaviors and overweight; physical activity; tobacco use; mental health; and protective factors.	Kenya	Two-stage cluster sample design. Pupils in classes 7 and 8 and forms 1 and 2. Age: 13-15 years	Primary data	14.6% of Pupils had at least one drink containing alcohol; 19.7% of Pupils drank so much alcohol that they were Really drunk; 13.9% of Pupils smoked cigarettes on one or more days	Information needed for policy making
Muthikwa (2016), Effects of drug and substance abuse on primary school pupils' academic performance in Kakuma refugee camp, Turkana County	-To determine the extent of drug and substance abuse among primary school pupils -To establish whether negative peer influence leads to drug and substance abuse among pupils in public primary schools - Determine whether parents who take drugs influence their pupils to abuse drugs	Kenya	Albert Bandura's social cognitive theory (1986)	-To determine the extent of drug and substance abuse among primary school pupils -To establish whether negative peer influence leads to drug and substance abuse among pupils in public primary schools - Determine whether parents who take drugs influence their pupils to abuse drugs	-Alcohol was the generally abused drug among the drugs and substances abused among the pupils and was most commonly available - Other drugs and substances abused include tobacco, bhang and khat - common source of drugs was from the school at 60% - Drug abuse causes low concentration in class activities, causes failure to understand during lessons, and leads to fighting with other children and pupils' rudeness to teachers	-Sensitization of pupils on the dangers of drug and substance abuse. -Counseling of parents on the impact of drug and substance on their children's academic performance -enforcement of security checks in schools to prevent possession of drugs and harmful substances by pupils.

<p>Njoki (2011). Effects of drug abuse on pupils' performance in public primary schools in Langata division, Nairobi, Kenya</p>	<p>- To examine the prevalence of drug abuse in public schools in Langata division -To investigate the causes of drug abuse in public schools in Langata division -To determine the effects of drug abuse in public schools in Langata division -To establish community's attitude towards drugs users -To identify the strategies available to curb drug abuse</p>	<p>Kenya</p>	<p>-Social Learning Theory of Bandura (1977) -The Conceptual Framework was drawn from Chambers (1983) model Sample units of 10 public primary schools, purposely sample 10 children already abusing drugs and 10 without history of drug abuse (total of 20 pupils in each school and a total of 200 in sampled schools)</p> <p>Dependent variable: Academic Performance Independent variables:</p> <p>Family characteristics (poverty, lack of role models, lack of guidance and counseling, ignorance, family dysfunction) Learner characteristics (peer influence, media influence, ignorance on effects of drugs, idleness) School factors (weak guidance and counseling department, unmanageable workload, lack of clear policies). Mixed methodology (quantitative and qualitative methods) Adolescents' awareness of substance use, patterns of use and associated harm; Adolescents' perceptions about the factors associated with substance use.</p>	<p>Stratified random and purposive sampling technique. Sample units of 10 public primary schools, purposely sample 10 children already abusing drugs and 10 without history of drug abuse (total of 20 pupils in each school and a total of 200 in sampled schools) Dependent variable: Academic Performance Independent variables: Family characteristics (poverty, lack of role models, lack of guidance and counseling, ignorance, family dysfunction) Learner characteristics (peer influence, media influence, ignorance on effects of drugs, idleness) School factors (weak guidance and counseling department, unmanageable workload, lack of clear policies).</p>	<p>-Abuse of alcohol, tobacco and marijuana, mostly accessed in the village, at home, and at school - Drug abuse in public schools in Langata is caused by curiosity, peer pressure, family dysfunction, media fad, and easy accessibility of drugs -effects: poor attentiveness in academics, violent conduct, and school dropout</p>	<p>-Post Guidance and Counseling Teachers to schools - The school administration should intensify their knowledge about the Pupils' peer groups, family background, past discipline records - The parents should take keen interests on Pupils' academic pursuit, abilities, interests and potentialities - pupils involved in drug abuse should inform their companions who are users of drugs on the woes associated with these substances</p>
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<p>Rapid situation assessment of the status of drug and substance abuse in Kenya, 2012</p>	<p>Understanding of the attitudes and perceptions of adolescents in the United Arab Emirates regarding substance and to identify factors that, in their view, may influence the risk of substance use and suggest possible interventions.</p>	<p>Kenya</p>		<p>Mixed methodology (quantitative and qualitative methods) Adolescents' awareness of substance use, patterns of use and associated harm; Adolescents' perceptions about the factors associated with substance use.</p>	<p>The results indicate varying levels of awareness, access and use of various drugs. The level of awareness varies between rural and urban areas as well as use of drugs which still varies between rural and urban areas. On the other hand, awareness and use is linked to whether one is male or female. In general, men are more likely to report higher levels of awareness, access and use of alcohol and other substances of abuse.</p>	
<p>Drug and Substance Abuse Knowledge and Attitudes among Youth in Addis Ababa Ethiopia</p>	<p>The overall aim of the study was to gain insight into the current trend of drug/ substance abuse related knowledge and attitudes among the youth and to analyze strategies used to address the problem.</p>	<p>Ethiopia</p>		<p>Qualitative research design variables: Counseling and education, family, and environmental factors and negative peer influence</p>	<p>Majority of participants had adequate knowledge about harmful effects of addictive substances but had limited information regarding treatment and intervention options. This highlights the need for spreading more awareness about treatment of substance abuse via awareness creations, lectures, media and campaign at larger levels</p>	<p>Parents, educators, Government, NGOs and the community at large must be at the forefront in the fight against substance abuse by youth. National campaign on substance abuse; formation of self-help groups for drug users; parents should refrain from exposing their children and need to form peer group educators.</p>

<p>Adolescents' perception of substance use and factors influencing its use: a qualitative study in Abu Dhabi</p>	<p>Understanding of the attitudes and perceptions of adolescents in the United Arab Emirates regarding substance and to identify factors that, in their view, may influence the risk of substance use and suggest possible interventions.</p>	<p>Abu Dhabi</p>		<p>Qualitative study with a focus group approach.</p> <p>Adolescents' awareness of substance use, patterns of use and associated harm; Adolescents' perceptions about the factors associated with substance use.</p>	<p>Factors that participants believed influenced substance use were classified into: parent-adolescent relationship, peer influence, (substance accessibility, and religiosity) Factors believed to increase the risk of substance use among adolescents were negative peer influence, inadequate knowledge of the harmful consequences of drug use, family-related factors (e.g. low monitoring and poor parent-adolescents relationship), affordability and availability of substances, boredom and affluence.</p>	<p>Need for multifactorial prevention programmes that address social norms, gender role and image, and incorporate drug policy, religion, family and school would be more effective and would have better protective outcomes.</p>
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