THE LEVELS, TRENDS AND PATTERNS
OF DRUG ADDICTION IN
NAIROBI SECONDARY SCHOOLS

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DECLARATION

THIS THESIS IS MY ORIGINAL WORK AND HAS NOT BEEN PRESENTED FOR A DEGREE IN ANY OTHER UNIVERSITY

DAVID G. KARIUKI

THIS THESIS HAS BEEN SUBMITTED FOR EXAMINATION WITH OUR APPROVAL AS UNIVERSITY SUPERVISORS

PROF. D. M. KIMINYO

DR. G. K KARUGU
For my parents who appreciated various inconveniences in the course of this work; and all those whose concern tends towards positive mental health of the youth.

D.G.K.

APRIL, 1988
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APRIL, 1988
ABSTRACT

In this psychological study, a survey has been made of the levels, trends and patterns of drug addiction in Nairobi secondary schools.

The population selected for this study consisted of form four secondary school students (N = 800), their class-teachers (N = 100) and head-teachers (N = 20). The subjects and their schools were all selected using the stratified random sampling technique, a facility which was found absolutely necessary as the study's foundation rested on the various school strata identified in the study area.

The tool selected for data collection was a set of questionnaires, developed for students and teachers respectively. These questionnaires covered all the broad dimensions set by the study's hypotheses.

Due to the nature of this research, the technique chosen for data analysis was the chi-square ($X^2$) method. All tests of significance were done at the alpha ($\alpha$) level of 0.05. Where applicable, the Yates's correction for continuity was employed.
In the study of the relationship between sex and age in drug use, the relatively high prevalence of drug use among male students was associated with the general male tendency to 'drift' to drugs irrespective of age. Curiosity was found to play a prominent role in male drug use, with the chief motivation agents being identified as the subject's friends and peers. Drug use among female subjects was found to be linked to specific precipitating factors, for example, adolescence-related crises. It was inferred from the data that the majority of female drug users tended to be in the early adolescence stage of physical development.

On the relationship between school category, sex and age in drug use, day-scholars were found to be more prevalent in drug use relative to boarders. The main reason for this was the close contact between the potential drug user and the drug source (shops, peddlers and pushers). Significant differences were also found in drug use between subjects in single-gender and co-educational secondary schools. The research data also revealed a high prevalence of drug use in privately-maintained schools relate to government-maintained and unmaintained schools. These differences were attributed to the existing disparities between school disciplinary system.
In the establishment of the relationship between the sex of drug user and the pattern of drug use, it was determined that no difference existed between the number of male and female subjects who had used drugs on an experimental, casual or regular basis. One of the implications of this observation was that the majority of the drug experimenters would eventually become causal and regular drug-users.

The examination of the relative roles played by friends and parents as models in drug use revealed that, on one hand, there existed a negative correlation between parents' and children's use of drugs. On the other hand, a positive correlation was found between friends' and individuals' use of drugs. This implied that friends played a more prominent role as behaviour models for the youth.

The research data revealed that all the types of drugs identified in this study were readily available to subjects in government-maintained, privately-maintained and unmaintained schools. However, it was noted that subjects in some school categories, for example day-scholars, were generally more accessible to drugs than their counterparts in boarding school. No sex bias was found in the consumption of various types of drugs.
On the role of disciplinary systems in respect to the control of drug use, it was found that there existed a positive correlation between the level of disciplinary control and the tendency to use drugs. Nevertheless, no statistically significant differences in drug use were found between male and female subjects exposed to autocratic, democratic and laissez-faire disciplinary systems.

The above findings were noted for their legal, social, educational, cultural and economic implications. These practical implications were then translated into general recommendations, and recommendations for further research.

In this study, the 'prima facie' sources of information were the students. Teachers provided complementary information. Other important sources included published literature and previous researchers having a bearing on the central thesis.
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CHAPTER I

1.0 GENERAL INTRODUCTION

It is impossible to make an accurate assessment of the number of secondary school students who are actively involved in drug abuse in Kenya's urban centres. Nevertheless, it is generally acknowledged that many youths have already come into contact with the various types of psycho-active substances characteristic of this country.

Data from law enforcement sources, and the professionals who have already studied the changing patterns of drug abuse in the society, provides information on certain important levels and trends, as revealed in the review of related literature. However, it is recognized that the available published figures may have greatly underestimated the real incidence of drug abuse among the youth in this country. This implies that emphasis should now be placed on studying the levels, trends and patterns of youthful drug abuse in all of its dimensions.

Various studies have been carried out under the general theme of drug abuse among schooling youths (Mueke, 1980; Dhadphale, 1981; and Ochieng', 1986). According to these studies, drug abuse indicators continue to show an upward trend especially in the use of substances characteristic of this country.
Such substances include: Alcohol, Cannabis Sativa, Miraa and the various synthetic psycho-active substances that are locally available. There is also evidence that new drugs originating from other countries are gaining popularity in Kenya, for example cocaine and heroin. Therefore, scientific research by the above mentioned authorities and other highlighted in the literature review section clearly shows that youthful drug abuse is on the increase not only in Kenya but all over the world.

Many societies have already organized preventive drug education, which is aimed at the children, the youths and the adults. The main theme of such preventive strategies is the maintenance of positive mental health of the society. The popular structure of drug education involves giving of appropriate training to the groups already mentioned, with the added goal of helping steer these individuals away from the evils of drug use and make them understand that drugs should not be used as a means of problem-solving.

Various studies have already revealed the feasibility of preventive drug education as an integral part of the school curriculum, adult education programmes and the socio-cultural activities. However, this has mainly been done in the context of the developed countries.

A question which many people, who are as yet unaware of the gravity of the drug problem, will ask is as follows:-
Is drug abuse an old problem that is now being recognized for what it is, or is it a relatively new phenomenon?

In answer to this question, it is necessary to note that until recently social deviance was largely limited to the traditional and well-known incidents of petty theft, an occasional arson and sometimes, collective mob behaviours like strikes and demonstrations. All these have been situations that can be, by and large, contained within the schools' disciplinary and administrative structures since they are generated by purely local factors. However, as a consequence of rapid social change and its concomitant breakdown of traditional social structures, the use of drugs has found its way mainly from the international to the local scene. Hence, the use of drugs as a means of solving problems is a relatively new problem which is a consequence of rapid social change. Already, school authorities have been meeting the same problem and the resultant casualties are on an increasing scale.

Various bottlenecks have arisen because education has mainly been overlooked as an aid in preventing drug abuse. Confidence has been vested in other means such as legal controls, religious persuasion, and the existing Guidance and Counselling programmes in schools. Changes in the patterns of drug abuse have now brought a belated recognition of the need to enlist education in the efforts to grapple with a relatively new, but potentially disastrous phenomenon.
A question that would immediately arise from the above issue would be:

How "relatively new" is the drug problem?

In answer to this question, it is necessary to note that the age of drug use and abuse may not be specifically determined. However, there exists evidence to indicate that the Chinese knew about drugs in 2700 B.C., mainly of the Cannabis Sativa kind. Egyptians knew about Opium since 1500 B.C. In the 18th Century, the use of drugs became quite common especially in the United States of America. The 19th Century saw the introduction of heroin into common use; while in the 20th Century, the drug problem has become almost unmanageable with clandestine drug plantations and trafficking of drugs being very common in every corner of the globe. The age of drug use and abuse was briefly studied by Yusif (1983).

The other important question to be considered in this introductory section is as follows:-

How and when did the relevant authorities begin to fight drug abuse?

In answer to this question, it is important to note that although various measures may have been taken to fight the drug problem, no accurate record exists of the same. However it is generally acknowledged that the United Nations Organization (U.N.) finally got alarmed about drug abuse in the early seventies.
In response to a plea by the General Assembly of the United Nations, (General resolution number 2434), UNESCO's activities in the field of education and information concerning the problems associated with use of drugs started in 1971 (Yusif, 1983). The emphasis was mainly on the preventive aspects of education. With the financial support of the United Nations Fund for Drug Abuse Control (UNFDAC), meetings and seminars were held and survey studies were done on drug abuse, mainly at international level. The little information that was made available through these measures gave the initial insight on the levels of drug abuse at international level. It is necessary to note that most of the information that is currently available on general drug abuse in developing countries is a result of the efforts of UNESCO and WHO.

1.1 STATEMENT OF THE PROBLEM

Since the early seventies a lot has been said about the existing and increasing drug abuse problem in our society. A lot has been done about arresting this problem in the society, but very little has been done at the secondary school level, especially by way of a specific programme of preventive drug education.
Many people would feel that it is not worth the effort to study the feasibility of drug education at secondary school level, and that instead, we should put more emphasis on drug education at adult education level. While this assumption may be logical to an extent we should acknowledge the fact that the youth in Kenya constitute over fifty percent of the total population. At the same time, secondary education has been seen to play a very significant role in the building of our nation, through the moulding of youths into future leaders. Furthermore, secondary level education has been for a long time now, the main source of middle-level manpower that is required in all sectors of Kenya's economic life. Hence, drug education should be emphasized at this crucial level.

It has been established through several surveys that a drug problem exists among students in secondary schools. In view of this general impression, it was found necessary to study the issue of drug abuse among students in urban secondary schools.

This study is therefore aimed at investigating the levels, trends and patterns of drug abuse among male and female students in various categories of secondary schools in Nairobi.
1.2 PURPOSE OF THE STUDY

In this study, attention has focussed on some of the issues raised in the statement of the problem and the review of related literature. Specifically, it was aimed at:-

a) Determining whether there existed age and sex differences in drug use among students in the selected schools.

b) Establishing the relationship in drug use among:-
   i) Day scholars and boarders in secondary school.
   ii) Students in co-educational and single-gender secondary schools.
   iii) Students in various specified school categories.

c) Studying the relationship between the sex of drug user and pattern of drug use.

d) Examining the relative roles played by friends and parents as models in drug use.

e) Investigating the relationship between the sex of drug user, and the types of drugs used by subjects in various school categories.

f) Identifying the relative roles played by disciplinary systems and home background in drug use.
1.3 RESEARCH QUESTIONS

In order to achieve the aims of this study, the following research questions were raised:

a) What is the relationship between drug use, sex and age?

b) Is there any relationship in drug use among the boys and girls in various school categories?

c) What relationship exists between male and female students in the way they use drugs?

d) Who plays a bigger role in initiating an individual to drug use - the parents or friends?

e) What relationship is found between the types of drugs used by male and female subjects in various school categories?

f) What influence do different forms of disciplinary systems and home backgrounds have in students' drug use?
1.4 ASSUMPTIONS

The researcher made the following assumptions in undertaking this study:-

a) All the schools in the same category were homogenous. For example, all day boys' schools had similar disciplinary systems, geographical location and student enrolment, hence, they had similar drug use patterns. However, while homogeneity prevailed in respect to schools in each category, it diminished in the comparison of schools in different categories. This was the primary reason for selecting subjects using the stratified random sampling method, with the school category acting as the study strata.

b) The survey would be a beneficial exercise to be undertaken in urban secondary schools, given the current state of affairs in terms of drug abuse in such schools.

c) The participants were willing to reveal their true personal experiences sincerely.

d) The samples selected were representative of the parent populations.

e) There were no concomitant variables interfering with the process of data collection. For example, the subjects did not get help in completing questionnaires apart from the researcher's assistance.
1.5 SIGNIFICANCE OF THIS STUDY

a) Previous researchers under the general theme of drug abuse among the youth in Kenya revealed that the problem of drugs was not serious enough to warrant national action (Mueke, 1980; Malusi, 1980; Mwakwere, 1977). However, future research was prescribed in order to assess the trends of drug abuse among the youth. This study's significance therefore rests on the recommendations of researchers in past studies.

b) Many of the past studies suffered from serious internal weaknesses, arising from poor selection of subjects, poor data analysis techniques, and poor teamwork amongst researchers. In the light of these problems, the conclusions drawn from such studies were not a true reflection of drug abuse among schooling youths. This study's significance rests on the measures taken to avoid problems which were inherent in other studies.

c) The marked increase in the consumption of both legal and illegal drugs in our society is continually highlighted in our local dailies, and the government has been showing increasing concern about this problem.
While the absence of a clearly stated drug policy in Kenya is a major handicap, it is generally acknowledged that we lack organized educational resources capable of prevention of the drug problems in the school system, let alone the society. This study's significance is therefore implied from the need to make appropriate recommendations in view of the issues raised above.

d) To date, no other single research has been conducted to cover the same objectives as the current study. The significance of this study therefore rests on the unique objectives on which it is based.

e) The findings of the current study will shed light on the levels, trends and patterns of drug abuse in Nairobi secondary schools. The significance of this study is therefore found in the answers provided to the research questions raised in Section 1.3.

f) The current study will help fill the gap that exists in terms of there being very little documentation on studies in the field of drug abuse among the young persons in Kenya and other developing nations.
It is generally acknowledged that most of the past researches, especially those initiated by UNESCO and WHO in developing countries suffered from over-generalized conclusions. Thus, by carrying out this study, the researcher will have added to the existing knowledge about drug abuse in the developing world.

This study has been designed in such a way that it is specifically dedicated to the field of drug problems among secondary school students. It is expected that the study will throw more light on the issues underlying the drug problem, and in so doing, make a contribution to knowledge, which will be beneficial to educational planners, administrators and all those responsible for the youth - the future of this nation. This study's significance is therefore found not only in the provision of important information on drug abuse among the youth, but also in the stress placed on the relative position of the youth in society.

The above points underscore the importance of this study. In the recognition of the importance of raising and educating children who are healthy in mind and body, it was found prudent to undertake the current project.
1.6 **LIMITATIONS OF THIS STUDY**

The main constraints encountered in this study were:—

a) **TIME LIMIT**

This study had a time limit of one year. This was found to be very prohibitive because of the need for precision.

b) **STRUCTURAL LIMITATIONS IN RELATION TO SCHOOL CATEGORIES**

The researcher acknowledged the fact that no two schools in the same category could be identical in relation to aspects like: disciplinary systems, pupil enrolment, geographical location and so on. This problem of non-homogeneity was manifested in the researcher's inability to allow for differences between schools (and pupils) in the same category. This was seen as a factor that could influence the results significantly.

c) **STUDENTS' AND TEACHERS SAMPLE SIZE LIMITS**

In the social sciences, representative samples are normally taken to be at least 25 percent of the parent population. However, in this study huge parent populations precluded the drawing of representative samples. The constraints may be illustrated by considering the parent populations of the subjects:—

  i) **Students' parent population:** 25,253
  
  ii) **Class-teachers' parent population:** 1,276
d) **STUDENTS' SAMPLING PROBLEMS**

Students were drawn from only one class: Form Four. Where there was more than one form four stream, one class was chosen randomly. The other grades were not considered in this study because of the various constraints.

e) **LIMITATIONS OF QUESTIONNAIRES AS DATA COLLECTION INSTRUMENTS**

It is generally acknowledged that questionnaires suffered from various internal weaknesses in the process of data-gathering. Indeed, questionnaires do not guarantee frankness of the subject.

1.7 **DEFINITION OF TERMS AND ABBREVIATIONS**

The definitions given below are of words or phrases as they were used in the dissertation.

**CATEGORY OF SCHOOLS:**

This referred to the following dimensions:

i) **Nature of School:** Government maintained, unmaintained or privately maintained school.

ii) **Type of School:** Day or boarding, boys' or girls' school.
COUNSELLING: This is a specialized guidance service that may be focussed on one child at a time or on a group of children. Counselling is aimed at reducing tensions through "talking out" one's problems. The major emphasis is on the development of self-direction where individuals are helped to gain personal insight and hence be able to 'work out' solutions to their own problems as well as make personal decisions.

DEPENDENCE PRODUCING DRUGS: A drug having the capacity to interact with a living organism to produce a state of psychic or physical dependence or both.

DRUG: Any substance that may be chemical in nature, which may be inhaled, drunk or rubbed on, with the result that it changes or alters the body functions.

DRUG ABUSE: i) The deliberate taking of a substance described as a drug, for reasons other than its intended use or purposes, and in a manner that can be said to result in damage to a person's health or ability to function properly.

ii) The illegal self administration of drugs to the possible detriment of the individual's health.
DRUG DEPENDENCE: A state, psychic and sometimes physical, result from the interaction between the living organism and a drug. It is characterized by the behavioural and other responses that always include a compulsion to take the drug on a continuous or periodic basis, in order to experience its psychic effects and sometimes to avoid discomfort of its absence. Tolerance is not necessarily automatic, while one can be dependent on more than one drug.

ILLEGAL DRUGS: Any drug which the Government considers harmful to the mental and physical health of the society, and for which purpose the Drugs and Poisons Act was enacted, in order to discourage its consumption. Such drugs include: Bhang, cocaine, heroin, unprescribed medicine and volatile solvents (Petrol and glue).

LEGAL DRUGS: Any potentially dangerous drug which the Government allows consumption of. Such drugs which do not expose the user to legal repercussions include: alcohol, tobacco and miraa.
NAIROBI SECONDARY SCHOOLS: All schools of secondary level, which are considered by the Kenya National Examinations Council (KNEC) and the Ministry of Education as being in Nairobi Province.

NON-MEDICAL USE OF DRUGS: The use of a dependence producing drug of any of the types mentioned above, other than when medically indicated.

PHYSICAL DEPENDENCE: An adaptive state that manifests itself by intense physical disturbances when the administration of a drug is suspended. The disturbances are withdrawal or abstinence syndromes, made up of specific arrays of symptoms and signs of a physical nature that are characteristic for each type of drug.

PREVENTIVE DRUG EDUCATION: The use of educational strategies with the aim of ending drug abuse and its negative effects. It involves finding a remedy for the underlying causes which are the root not only of the drug phenomena, but also of other symptoms of social maladjustments.
Preventive education policies are aimed at preventing rather than curing the problem. Drug education may in most cases be extended to the existing school curriculum. Also, drug education may take the form of efforts to inform the public about drugs. Hence, drug education refers to all the efforts made to disseminate knowledge about drugs, with the main objective of preventing by informing.

**PSYCHIC DEPENDENCE:** A condition in which a drug produces a feeling of satisfaction and a psychic drive that requires periodic and continuous administration of the drug, to produce pleasure and hence avoid discomfort.

**RESPONDENTS:** These are the number of subjects who physically completed the questionnaires administered to them.

**RESPONSE RATE:** The ratio of the actual number of respondents, to the projected number of respondents multiplied by 100.
SCHOOL GUIDANCE:

Guidance in the secondary school is mainly concerned with meeting the physical, social, emotional and educational needs of students. Its purpose is to help each child make a satisfactory adjustment to life, both in school and out of school. This is also a service which is provided for all children, not only those with behavioural problems, learning difficulties and emotional disturbance. Normally, well-adjusted children also need to be guided in their thinking, attitudes and their general personality development.

SIMPLE RANDOM SAMPLING:

A method of drawing a representative sample from a parent population. Here, each statistic in the parent population N is ranked from I to N. Each statistic, for example, 1, 2, 4, 60, 98, (N-1), can be said to have an equal and independent chance of being selected, as long as selection is random as in the lucky draws, such as the Kenya Charity Sweepstake.
SUBJECTS: This refers to the individuals who were drawn from the parent population, N, to form a sample, n. These were the individuals to whom the questionnaires were presented.

TEACHERS: This term refers to class teachers and headteachers, since both of them are professional teachers but with different responsibilities.

YOUTH: This term has been used to refer to young people, who are still in adolescence stage.

ABBREVIATIONS

KNCPEA: Kenya National Committee for Preventive Education on Drug Abuse.


UNFDAC: United Nations Fund for Drug Abuse Control

WHO: World Health Organization
2.0 REVIEW OF RELATED LITERATURE

This chapter covers a review of the various documents, texts and other publications which were considered to be relevant to this study. The main emphasis is on salient points like: major methodological issues, findings and conclusions, in relation to each study.

2.1 THE RELATIONSHIP BETWEEN AGE AND SEX IN DRUG USE

Gomberoff (1973), presented the results of a study done in an effort to discover differences between cannabis smokers and non-smokers in a sample of 734 school children from a mixed Lycee (French) in Santiago, Chile. A questionnaire was administered, and the smokers (N = 51) were compared with a random stratified sample of non-smokers (N=75). Very few significant differences were found and the hypothesis that cannabis was used as a symbol of rebellion against authority was not supported, nor was any relationship found between conflict in the family home and smoking. However the difference which was found was that the smokers tended to be male.

Ndiaye (1976), presented the results of a study on drug problems in the educational system of Senegal.
Information in this study was extracted from youth-leaders, teachers, instructors in out-of-school education, organizers of community activities, law-enforcement officers, pharmacists and psychiatrists. Samples were drawn from the capital city and its environs. The results indicated that the age-range of drug-users in the educational system was 11 to 25 years, and the drugs used by these individuals were identified as: stimulants, sedatives, alcohol, tobacco, Indian-hemp, and thorn-apple (Datura metel), a wildly growing herb. It was concluded that the use of drugs was fairly widespread in Senegal, especially among young males. A proposal was made of methods that could be used to assist in combating drug use at all levels. However, drug education was stressed on as a suitable measure, partly because of its success elsewhere.

Cole (1976), presented the results of a study on drug-education and the problems associated with the use of drugs in Sierra-Leone. This study involved 1200 subjects drawn from the Western area, and others from district headquarters in the rest of the country. The samples included persons of all classes, ages and sexes, as well as drug users and non-users. The results revealed that there was an urgent need for drug education since 61 percent of the total drug users were found to be male youths below 24 years of age. It was recommended that future epidemiological studies be undertaken so that the levels, patterns and trends of drug use could be determined accurately. Preventive education was prescribed in such a manner that it would cover the entire educational system.
Mwakwere et. al. (1977), presented the results of a study whose samples were drawn from the following provinces in Kenya: Nairobi (N = 609), Coast (N = 510), Eastern (N = 487), Nyanza (N = 512) and Western (N = 480). The subjects in the samples were classified as follows: secondary school students, secondary school leavers below 24 years of age, and head-teachers of secondary schools. All the subjects were presented with a questionnaire specific to their group. The findings of this study revealed that the consumption of legal drugs (cigarettes and alcohol) had a uniform distribution in the samples selected. However, the consumption of other drugs like miraa and bhang showed regional consumption tendencies, with a bias towards Nairobi, Nyanza and Western Provinces. In all samples, prevalence of drug use among male students was revealed. It was concluded that there was indiscriminate use of drugs by young persons. The general approach prescribed against the use of drugs in Kenya was prevention, through drug education. It was also suggested that efforts should be made to establish rehabilitation centres so that the drug-dependent individuals could be re-educated and be able to resume normal social life.

The World Confederation of Organizations of the Teaching Profession (WCOTP) (1977), presented a summary of research findings on the problem of drugs in six African countries: Cameroon, Kenya, Nigeria, Senegal, Sierra-Leone and Togo. In general, it was concluded that drug abuse was not as serious a problem in Africa as in the developed world.
However, it was acknowledged that drug problems had already infiltrated into certain urban schools in the specified African countries. Further, the use of substances like opium, tobacco and cannabis, was found to be prevalent among male youths. In order to eradicate the drug menace, it was suggested that all institutions in the society had to be actively involved, especially the following: the youth, parents, teachers, the press, the general public and the Government. Educational strategies were seen as being doomed to failure if there was no co-operation between these social institutions.

Nyambe (1979) presented the results of studies on drug use in two African and two European countries. On the drug situation in Zambia, male prevalence in drug use was revealed. Alcohol was the most widely used among legal drugs, while dagga (Cannabis Sativa) was rated as the most popular with respect to illegal drugs. The subjects in this study \( N = 109 \) were drawn from Forms I to IV, and the age range was 12 to 21. They were all students in 5 Lusaka secondary schools. On Kenya's drug situation, the results revealed male prevalence in the use of alcohol, cannabis sativa, valium and miraa. However, it was concluded that drug use was non-existent at primary school level, negligible at secondary school level, and common practice at institutions of higher learning. The results of the study of United Kingdom's drug situation revealed that the socially acceptable drugs (alcohol and tobacco) ranked as the principal drugs of abuse. Male prevalence in drug use was found.
However, the results indicated that barbiturates were used mainly by females, unlike opiates and central nervous system stimulants which were the principle drugs of abuse among males. On the drug situation in Switzerland, the results revealed that the main drugs of abuse were: alcohol, heroin, marijuana and cocaine. Male prevalence in drug use was also noted.

Mueke (1980), presented the results of a study involving 300 pupils, 100 adults and 15 school-heads, all drawn from Nairobi, Machakos, Kirinyaga and Garissa. The data collected revealed the indiscriminate use of drugs by school children of both sexes, with the trend showing an increase, especially among male subjects. The majority of the tobacco and bhang smokers were boys in forms two, three and four; while the majority of alcohol consumers were boys in the same school grades. No drug incidence was found in primary schools. It was concluded that there was a fairly negligible drug problem in the specified areas. However, further research was prescribed at a later date, in order to study the trends of drug use in similar samples.

Ndegwa (1980), presented the results of a study on drug incidence in primary and secondary schools in various parts of the republic (Kenya). It was acknowledged that, while some youths in school either smoked, or consumed alcoholic beverages, this was no longer seen as a drug problem, but rather as a misconduct, in the sense that their age and social status did not allow them to indulge in the use of such substances.
It was lamented that, once they were out of school, male youths were free to smoke and drink. The society was therefore seen as having endorsed the drug habit among the youth. The main drugs of abuse were identified as: medical preparations, tobacco, bhang, volatile solvents and alcohol. Male prevalence in drug use was found. It was concluded that drug use was no longer restricted to male youths, but was also slowly being taken up by females, too. Diagnostic studies on drug use in the school system were prescribed, while concise illustrations were made of the benefits of preventive education.

Dhadphale et.al. (1981), illustrated the results of a major survey of drug use among secondary school students in Nairobi and other parts of Kenya. The results of this study confirmed that drug abuse was prevalent among secondary school students. For instance, 10 per cent of the students in the sample drank alcohol more than three times a week, 16 per cent smoked cigarettes more than three times a week, 14 percent smoked bhang regularly, and 16 percent took diazepam on a regular basis. Male prevalence in drug use, in all samples, was found. It was concluded that the problem of drugs was most common in urban schools, followed by peri-urban and rural schools, respectively.

Haworth (1983), presented the results of various studies on the use and abuse of drugs, carried out between 1966 and 1981 in Zambia.
The results revealed that there was a high positive correlation between smoking and drinking, especially among male subjects. A general increase in the levels of drug use within the specified period was also acknowledged. The main drugs of abuse were: tobacco, alcohol, amphetamines, inhalants, hallucinogens, tranquilizers, sedatives, analgesics and cannabis sativa. Drug education was prescribed for students, teachers, parents, policy-makers and the public at large.

Ochieng' (1986) presented the results of a survey on the effects of drug abuse. The target population in the survey comprised of 300 students and 50 adults (teachers, doctors and law-enforcement officers). The students were sampled from three secondary schools in Nairobi. The results revealed that 75 percent of Kenyan students were in contact with drugs, and the rate of drug use was increasing rapidly especially among those schooling in urban schools. The types of drugs used by the subjects were: bhang, alcohol and tobacco. Male prevalence in drug use was also found. Drug education was one of the measures prescribed for fighting drug use among schooling youths.

In the study of the relationship between age and sex in drug use, male prevalence was found in all the above references. It was generally noted that the age-range of drug users was 11 to 25 years, which implied that subjects on the onset of adolescence and those tending towards youthful adulthood were equally prone to drug use (Cole, 1976; Ndiaye, 1976).
The widespread use of drugs among the youth was acknowledged in the majority of the studies. However, the prevalence of drug use in urban secondary schools was a significant observation (WCOTP, 1977). Minimal incidences of drug use were found in primary schools.

2.2 THE RELATIVE ROLES PLAYED BY THE FAMILY, FRIENDS AND PEERS IN DRUG USE

Robins (1962), presented the results of a study involving 503 subjects. Alcoholism was found to be related to extremely low social status, and grossly inadequate parental care. However, it was concluded that those findings could apply only to a sub-group of alcoholics, since some of the alcoholics in the sample were found to be drinking socially without loss of control.

Chein (1964), studied the cultural context, individual environment and personalities of male and female addicts, within a largely psychological and psychoanalytic conceptual framework. The importance of the family was emphasized in contributing to the personality of the addict, with his weak ego-structure, defective super-ego functioning, inadequate male identification, unrealistic levels of aspiration, and distrust of all major social institutions. Reports were given of studies done in New York City between 1953 and 1956, involving heroin-using and non-using, delinquent and non-delinquent adolescents.
The objective of these studies was to explore the context in which drug abuse and addiction arose among New York adolescents, and to investigate the dynamic relationships of heroin addicts, their parents and peers.

Maddox et al. (1964), presented the results of a questionnaire survey of 1962 high-school students in three public schools in Michigan City. It was concluded that young people did not invent the idea that they should drink (or abstain); they learned it. Adolescence was conceived of as a transitional period during which a transformation from teenager to adult roles occurred through adolescent practice of the institutionalized role of adults. In sum, adolescent drinking behaviour was seen as being associated with growing up in an environment in which an important status to which the teenager legitimately aspired was that of becoming an adult, which was perceived typically as involving alcohol use. The behaviour models identified in this study were: parents, friends and peer group members.

Hanson (1967), utilized data described in another study (Meloff, 1967), in an effort to account for glue-sniffing by a group of boys in Denver. Essentially, glue-sniffers were found to express deviant attitudes and behaviour as a consequence of inadequate and/or contradictory socialization, resulting from family disorganization factors and frustration, failure and anomie related to school experience.
The results revealed that, the lack of family affection and school recognition left the subjects particularly dependent on their peer groups for these rewards, and thus particularly susceptible to glue-sniffing if it was a peer-group activity.

Meloff (1967), studied a group of Denver sniffers \( N = 36 \), and concluded that this group was more deprived (in terms of family income, family stability, intelligence-quotient, and academic achievement), and significantly more tolerant of deviance and deviants themselves, than two comparison groups of similarly aged adolescents. This deprivation, manifested in the subjects' inability to perform well in school was found to cause feelings of negative self-worth, leading to a retreatist adaptation which was further seen to lead to glue-sniffing.

McKenna et al. (1967), presented the results of a study involving a stratified random national (English) sample of 16 to 20-year-olds \( N = 854 \), and adults \( N = 948 \). The objective of this study was to determine the smoking habits of the subjects. The results revealed that curiosity, peer pressure, parental attitudes and models, were the major causes of drug use among adolescents. However, for adults, smoking was seen as fulfilling different needs and roles, for example, relaxation, activity accompaniment, and food substitution.
Rosenberg (1969), attempted to examine some of the causative factors involved in drug abuse, through psychiatric and psychometric investigation of youthful drug addicts mainly dependent on amphetamines, barbiturates and bromides. All the subjects were drawn from Sydney and Australia. The major conclusion made was that dependence occurred among those from deprived family backgrounds, and those with prior personality disorders.

Goode (1970), researched on the dynamics of becoming a marijuana user. This study was based on participant-observation and 1967 interviews with 200 non-randomly chosen marijuana users in New York. The results revealed that the first use of cannabis-sativa was overwhelmingly a social event in which neophytes were "turned on" by experienced users. The crucial role played by friends in the process of becoming a drug-user was acknowledged, in terms of providing information, the opportunity and the necessary legitimation for this activity. Five interrelated variable characteristics of initiates were identified as having a dominant role in determining whether or not an opportunity to try cannabis was accepted, these being: the initiate's perception of danger, his perception of benefits, his attitude towards users, his closeness to marijuana endorsers, and his closeness to those providing the opportunity.
Trybusa (1972), studied the causes of drug addiction among the youth in Poland. It was concluded that the major causes of drug abuse among the subjects were: Insufficient influence of the family concerning the education of the child; the effects of family disruptions; lack of family care and guidance when parents are at work and the children not at school; and lack of success at school.

Seldin (1972), gave a review of 35 contributions from the field of sociology, psychology, psychiatry and social work, on the role of the family in the generation and maintenance of male opiates addiction. In view of this analytical review, it was concluded that addicts' families were responsible for their immature personality development which made them liable to addiction.

Cancrini (1973), presented the results of a study done over a one-year period (1969 to 1970), involving 147 young drug addicts and 142 families. It was concluded that the origin of drug addiction was to be found in the family situation and poor personal relationships. Addicts were seen as functioning as "scapegoats" for their families, thus being driven into deviant careers.

Haastrup (1973), presented the results of an epidemiological study of 350 under-25-year-old subjects. This study was initiated between 1968 and 1969. Comparisons were made with a control group of 140 subjects, and a three-year follow-up was conducted.
The results revealed that drug users tended to come from broken homes more frequently than controls. It was concluded that family influence was a major factor in the development of drug abuse.

Gomberoff (1973), presented the results of a study done in an effort to discover differences between cannabis-sativa smokers and non-smokers in a sample of 734 school children from a mixed Lycee in Santiago (Chile). A questionnaire was presented and the smokers \( (N = 51) \) were compared with a random stratified sample of non-smokers \( (N = 75) \). Very few significant differences were found, and the hypothesis that cannabis was used as a symbol of rebellion against authority was not supported; nor was any relationship found between conflict in the family home and drug use.

Baumann et.al. (1973), gave the report of an investigation into drug-use among nineteen-year-old female subjects in Zurich. 1381 subjects completed a questionnaire. The results of data analysis revealed that 16 percent of the subjects had used drugs; the higher the status of parents and the higher the type of schooling received, the greater was the tendency to take drugs; a positive correlation existed between disturbed family milieu, parents' use of drugs, and the subject's use of drugs; the smaller the community lived in, the smaller was the percentage taking drugs; drug use showed minimal religious connections; and there was evidence of lack of problem-discussion between subjects and their parents.
Kandel (1973), presented the findings of a study involving a stratified sample of schools in New York (N = 18), and a total of 8206 adolescents. The objective of this study was to determine the relative importance of the influence of parents and peers upon adolescent drug use. The results revealed that the use of marijuana by subjects was correlated with the use of drugs by peers. Only 17 percent of the subjects using drugs had parents who also indulged in the habit. Further, only where drug use existed in the peer group relationship was there an association with parental drug use. When both parents and peers used drugs, then there was recorded the highest incidence of marijuana use (67 percent). These results were explained in terms of "culture deviance" and differential association to the extent that the students were provided with delinquent role models in the peer group. The peer group was seen as a crucial factor in adolescent drug use, in contrast to Blum (1972), and parental behaviour only important as a modifying influence.

Vojtik (1973), discussed the results of a clinical study involving 205 adolescents aged between 15 and 21 years. The main reasons for taking drugs were seen as rooted in the disturbed family life of the drug user, and in the psychogenic and sociogenic influence of the dysfunctional family. One-third of subjects were found to abuse drugs, often being poly-drug takers. Drug addiction was seen as being qualitatively and quantitatively different in socialist society as opposed to Western capitalist society.
Marin et al. (1974), used Rotter's social learning theory and Jessor's conceptual framework to explore some psycho-social and environmental factors associated with drug-taking. A sample of 2142 students was randomly selected and presented with a questionnaire. It was revealed that although the use of drugs was largely ascribed to the effects of peer group modelling, the majority of students first used drugs on the advice of a medical practitioner. Furthermore, there was evidence of ease of availability of drugs that should have been prescribed only by a qualified person. The importance of parents as models for behaviour was seen in the frequency of drug abuse, which was: 69 percent using alcohol, 58 percent using tobacco, and 44 percent on tranquilizers. It was concluded that the factors that differentiated the drug user and the non-user were not those of personality, but attitude towards use and effects of the drugs, and the presence of models and social reinforcers, particularly those of parents and friends.

Ferrara (1976), described a study of 22 juveniles interned by the panamean juvenile court for inhaling thinner. The majority of the subjects used drugs out of curiosity but were reinforced by imitation. All the subjects had come from poor socio-economic class, had poor educational records, and there existed a reciprocal rejection between the subjects and their parents. It was concluded that the subjects were subject to a disorder of personality, with a sociopathic tendency manifested in the inhalation of thinner.
In the exploration of the context in which drug use arose among subjects in various studies, it was found that drug use was related to extremely low social status and grossly inadequate parental care. In the majority of the above studies, the family background was emphasized in contributing to the personality of the addict, while adolescence was conceived of as a period during which transformation occurred through practice of the institutionalized roles of adults. In general, curiosity, peer pressure, parental attitudes and models were found to be the major causes of drug use among the youth, in terms of providing the necessary information, the opportunity and the legitimization for drug use. Poor personal relations were found to be related to deprived family background, while a positive correlation existed between parents', friends' and the individual's use of drugs.

2.3 THE TYPES OF DRUGS USED, AND THE CLASSIFICATION OF SCHOOLS TO WHICH THE USERS BELONGED

Pittel (1973), made one of the very few multi-disciplinary attempts to longitudinally study the aetiology of youthful multiple drug use. This study involved 250 gender-balanced volunteers aged between 18 and 26, who were residents of San Francisco's Haight-Ashbury area. The subjects were divided into two cohorts (one beginning in 1968 and the other in 1969), each of which was subject to various initial assessment procedures (including a battery of psychological tests, written autobiographical material interviews and diagnostic procedures.
Data derived from these assessments revealed that the youths were raised in middle and upper-middle class homes, and their parents were generally characterized as concerned, encouraging and tolerant, rather than cold, distant or over-bearing. None of these biographical or family characteristics were thought to be adequately the causal factor in the subjects' drug use. It was concluded that the subjects used various types of drugs at varying intervals and levels, to compensate for poorly developed ego mechanisms of coping and defence, which were found to have resulted from high degrees of childhood and adolescent stress.

Dickson et.al. (1974), traced the trends of drug use in Ghanaian educational institutions. Drug use among youths in Ghanaian schools was seen as a consequence of rapid social change, and its concomitant breakdown of traditional social structure. This sociological study was aimed at making an inquiry into the knowledge of, attitude to, and the practice of drug use among students in secondary schools and training colleges. Several issues emerged from this study: That drug-use was widespread in Ghanaian schools; that drug use was not typical of any groups of students but cut across various socio-demographic characteristics; and that students used drugs for a number of non-medical reasons, with little or no knowledge of the consequences of such action on them, their families and society; and lastly, that school authorities and parents were very naively unaware of this form of deviance.
It was concluded that drug education in the entire educational system was urgently needed, as drug abuse among the youth was becoming a national problem.

Wieder et al. (1969), used a psychoanalytic framework to draw conclusions from a series of case studies and clinical experiences on drug addiction in adolescents. It was found that the choice of drug by the user was not arbitrary but dependent upon the developmental state to which the user wished to regress. Thus, when the individual found an agent that chemically facilitated his pre-existing preferential mode of conflict solution, it became a drug of his choice. It was therefore concluded that different individuals would use the drug whose choice was dictated by the aforementioned variables.

Ndiaye (1976), presented the results of a study on drug problems in the educational system of Senegal. The research information was got from police officers, teachers, youth-leaders, instructors in out-of-school education, organizers of community activities, pharmacists and psychiatrists. Samples were drawn from the capital city and its surrounding areas. The results of data analysis revealed that the age-range of drug users in the educational system was 11 to 25 years. The types of drugs used by these young people were identified as stimulants, sedatives, alcohol, tobacco, Indian-hemp, and thorn-apple. The drug users were not classified into any school category. However, it was generally concluded that the use of drugs was fairly widespread in the educational system of Senegal.
The World Confederation of Organizations of the Teaching Profession (WCOTP) (1977), made a brief survey of drugs being used by scholars in six sub-saharan countries. Research information was got from various groups in the respective countries, these groups being: youths, teachers, church elders and government representatives. The participating countries were: Cameroon, Kenya, Nigeria, Senegal, Sierra-Leone and Togo. A synthesis of drug use in the six countries was made, with the study involving 500 teachers in English-speaking countries and 200 in French-speaking countries. It was revealed that different kinds of drugs were in use by school-age children in the six countries, to the extent that some children had began to show signs of drug dependence. In virtually all the countries under study, various forms of Indian-hemp were reported to be the major types of drugs used, hence arousing concern in the respective countries. Other drugs of abuse were identified as: opiates, barbiturates, alcohol, cocaine, amphetamines, Khat (Cartha edulis), and L.S.D. (hallucinogens). It was found that the extent to which drug abuse had infiltrated into schools varied from country to country, with Senegal yet to experience serious drug problems; Kenya, Togo and Cameroon experiencing latent danger of drug abuse in schools; while Nigeria and Sierra-Leone were already experiencing severe drug problems. It was concluded that drug education was feasible in all the countries under study. However, it was recommended that educational strategies and repressive legislation in this programme should be tailored to suit each country's needs. Essentially, drug education was expected to take up the dual role of prevention and cure.
Mwakwere et al. (1977), presented the results of a study whose samples were drawn from five Provinces of Kenya: Nairobi (N = 609), Coast (N = 510), Eastern (N = 487), Nyanza (N = 512) and Western (N = 512). The subjects were classified as follows: Secondary school students, school leavers below 24 years of age, and head-teachers of secondary schools. It was revealed that the consumption of cigarettes and alcohol (legal drugs) had a fairly uniform distribution in the samples selected. The consumption of drugs like Miraa, and bhang showed a regional bias towards Nairobi, Nyanza and Western provinces. It was concluded that there was indiscriminate use of drugs by young persons, especially in urban areas. Preventive drug education was hence prescribed.

Nyambe (1979), presented the results of studies on drug use in Zambia, Kenya, United Kingdom and Switzerland. In Zambia, alcohol and dagga (Cannabis sativa) were the most widely used drugs among the subjects (N = 109). In Kenya, the main types of drugs used by scholars were: alcohol, cannabis sativa, valium and miraa. The study on United Kingdom's drug situation revealed that the socially acceptable drugs (alcohol and tobacco) ranked as the principle drugs of abuse, while barbiturates were found to be most popular among female subjects. The other drugs in general abuse were: opiates and central nervous system stimulants. In Switzerland, the main drugs of abuse were alcohol, heroin, marijuana and cocaine.
Mueke (1980), presented the results of a study involving 300 pupils, 100 adults and 15 school-heads. The samples were drawn from Nairobi, Machakos, Kirinyaga and Garissa. The main drugs of abuse were identified as miraa, alcohol, tobacco, bhang and volatile solvents. Although no incidence of drug use was reported in primary schools, it was generally concluded that there was an indiscriminate use of drugs by high-school students of both sexes. However, on the strength of the research data, it was argued that drug use in educational institutions had not attained a national crisis status.

Dhadphale et.al. (1981), illustrated the results of a major survey of drug use among secondary school students in Nairobi and in other parts of the country. It was revealed that 10 percent of the subjects drank alcohol more than three times a week, 16 percent smoked cigarettes more than three times a week, 14 percent smoked bhang regularly, and 16 percent consumed diazepam on a regular basis. It was concluded that while drug use was prevalent among secondary school students, the problem of drugs was most common in urban schools, followed by peri-urban and rural schools, respectively.

Haworth (1983), presented the results of various studies on the use and abuse of drugs, carried out between 1966 and 1981 in Zambia. The main drugs of abuse among the subjects were: Tobacco, alcohol, amphetamines, inhalants, hallucinogens, tranquilizers, sedatives and analgesics, and cannabis-sativa.
It was concluded that there had been an general increase in the levels of drug use within the specified period, although the constitution of the main drugs of abuse had not changed significantly.

Yusuf (1983), outlined the drug problem in Sudan, and traced man's efforts at eradicating the drug menace at international level. This document was presented in preparation for a preventive education syllabus, the aim of which was to evaluate the syllabus content of a feasible drug education programme for a teachers' college. Information on drug use and drug-related problems was presented in view of the common drugs used in Sudan (Khat, volatile solvents, tobacco, alcohol, unprescribed medicines and cannabis sativa). An outline was made of a complete curriculum on drug education, to be integrated into school subjects like: Science, Mathematics, Religion, National and Community Development Education, Arabic language and Arts.

Ochieng' (1986), presented the results of a survey on the effects of drug abuse in three secondary schools in Nairobi. The target population comprised of 300 students, and 50 adults (teachers, doctors and law enforcement officers). It was revealed that approximately 75 percent of the students in the sample had come into contact with the following drugs: bhang, alcohol and tobacco. It was concluded that there was an increasing prevalence of drug use among Kenyan youths especially in urban schools. Male prevalence in drug use, and evidence of addiction among primary school children, were also determined in this study.
In the study of the types of drugs used by subjects in the specified school categories, it was found that family characteristics were not the main causal factors in the subjects' drug use. Subjects were often seen to use various types of drugs to compensate for poorly developed mechanisms of coping and defence. Drug use was not found to be typical of any specific group of students, but cut across various socio-demographic characteristics; while drug use was, in other studies, found to be dependent on the developmental state to which the user wished to regress.

The types of drugs used by male and female subjects in various parts of Africa were not significantly different, as the majority of studies on drug use in this continent revealed that the main drugs of abuse were: alcohol, unprescribed medicine, miraa, bhang, volatile solvents, opiates and barbiturates.

2.4 SUMMARY OF THE ISSUES RAISED FROM REVIEW OF LITERATURE

a) In the study of the relationship between age and sex in drug use, the following issues were highlighted:-

i) The use of drugs was found to be fairly widespread among the youth, especially the male gender.

ii) Youthful drug users in educational institutions were found to belong to the age-range 11 to 25, implying the widespread use of drugs among the youth.
iii) The society was seen as having endorsed the drug habit among the youth, especially among the males.

iv) Indiscriminate use of drugs was noted among adolescent secondary school students of both sexes, with the drug use trend showing an increase. However, drug problems were not found in primary schools.

v) The majority of male and female students in urban secondary schools had had direct or indirect contact with drugs.

vi) Drug education as a preventive measure was prescribed in view of its success elsewhere.

b) In the exploration of the context in which drug use arose among subjects, and the relative roles played by friends and parents as models in drug use, the following issues were raised:-

i) Drug use was found to be related to low levels of social status and grossly inadequate parental care.

ii) The importance of the family was emphasized, relative to that to friends, in contributing to the personality of the addict.

iii) Adolescence was conceived of as a transitional period during which a transformation from teenager to young adult roles occurred through the imitation and practice of the institutionalized roles of adults, especially the parents.
iv) Youthful drug use was seen as being associated with growing up in an environment in which an important status to which the youth legitimately aspired was that of becoming an adult, which was perceived typically as involving drug use. The presence of behaviour models enabled the youth to achieve his goal, irrespective of whether the models were: friends, parents or peer group members.

v) Drug use, especially glue-sniffing, was related to inadequate or contradictory socialization, resulting mainly from family disorganization factors.

vi) Lack of family affection and recognition was found to make the youth particularly dependent on friends and peers as models.

vii) Curiosity was found to play a significant role in maintaining the influence of models in drug use.

viii) The crucial role played by friends in the process of becoming a drug user was acknowledged in terms of provision of information, the opportunity and the necessary legitimation for drug use.

ix) While a positive correlation was found between parents, friends and the subjects' use of drugs, parental behaviour was found to be important only as a modifying influence in drug use.
c) In the examination of the types of drugs used by male and female subjects in the respective schools, the following issues were raised:

i) The hypothesis that cannabis was used as a symbol of rebellion against authority was not wholly supported.

ii) The consumption of legal drugs was found to have a fairly uniform distribution in the samples studied.

iii) The consumption of illegal drugs showed regional bias towards urban areas, with cannabis being the most popular.

iv) Drug problems were seen to be prevalent in urban secondary schools, followed by peri-urban and rural schools, respectively.

v) In Western societies, the principal drugs of abuse among scholars were the legal drugs.

vi) Subjects were seen to use various types of drugs to compensate for poorly developed mechanisms of coping and defence.

vii) Drug use was not found to be typical of any specific group of students, but cut across various socio-demographic characteristics.

viii) The types of drugs used by male and female subjects in Africa were similar, as the majority of researches revealed that the principal drugs of abuse were: alcohol, unprescribed medicine, miraa, bhang, volatile solvents, opiates and barbiturates.
2.5 CONCLUSIONS

It was evident from the above review that copious amounts of reference material existed under the general theme of drug abuse among the schooling youth. The related literature from Africa was rather scanty, partly due to the newness of the drug problem in the continent relative to others, and partly due to the few scientific researches undertaken to-date. Many of the researches done with the objective of examining the problem of drug abuse among schooling youths in developing countries were found to have given a cosmetic treatment to the current themes. Therefore, this study is meant to give the necessary attention to those dimensions of youthful drug use which had not been stressed on in related studies. These dimensions or objectives, were accordingly translated into the research hypotheses identified below.

THE SPECIFIC HYPOTHESES

H1. There is no significant difference between male and female students in drug use.

H2. There is no significant difference in drug use between day and boarding students in Nairobi secondary schools.
There is no significant difference in drug use between students in boys', girls' and co-educational secondary schools in Nairobi.

Drug use among students in day boy's secondary schools is not significantly different from that of students in day girl's, day co-educational, boarding boys' and boarding girls' secondary schools in Nairobi.

There is no significant difference in drug use between students in maintained and private schools in Nairobi.

There is no significant difference between male and female subjects who use drugs on experimental, intermittent and regular basis.

There is no significant difference between the number of drug users whose parents used drugs, and that of drug users whose parents did not indulge in drug abuse.

There is no significant difference between the number of drug users whose friends did not indulge in drug use.

There is no significant difference between the types of drugs used by students in maintained, unmaintained and private secondary schools in Nairobi.
There is no significant difference between the types of drugs used by students in day girls', boarding girls', boarding boys', day boys' and day co-educational secondary schools in Nairobi.

There is no significant difference between the types of drugs used by male and female students in Nairobi secondary schools.

There is no significant difference in drug use between male and female subjects living with parents, close relatives, or those accommodated in boarding school.

There is no significant difference in drug use between male and female subjects living in homes with autocratic, democratic and laissez-faire disciplinary control.
3.0 METHODOLOGY

3.1 THE TARGET POPULATION

The samples selected in this study consisted of:-

i) **Form four students**: 800 subjects were drawn from both boys' and girls' schools in Nairobi area, and their age range was 14 to 21 years with the average being 17 years. The sample consisted of subjects from various categories of schools (see Section 3.3). Students were taken as the Prima Facie source of information in this study.

ii) **Class and head teachers**: The subjects were drawn from the same schools as in the students' sample. 120 class-teachers and 20 head-teachers were selected. The teachers were taken as complementary sources of information in the study.

3.2 SAMPLING

The nature of this study called for the selection of a large number of subjects. All possible steps were taken to ensure that the samples selected were representative enough of the parent population. 800 students were randomly drawn from 20 schools in the study area. In each school, only one stream of form four students was selected to complete the questionnaire.
From this stream, 40 students were randomly chosen to participate. 100 class teachers were drawn from these 20 schools, while the 20 head-teachers who were institutionally based automatically became potential information sources. The sample selection of subjects was as shown below:

### TABLE 3.1

SAMPLE SELECTION OF SUBJECTS: PERCENTAGE OF SAMPLE TO POPULATION SIZE

<table>
<thead>
<tr>
<th>POPULATION TYPE</th>
<th>POPULATION SIZE</th>
<th>SAMPLE SIZE</th>
<th>PERCENTAGE OF SAMPLE SIZE TO POPULATION SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAD-TEACHERS</td>
<td>78</td>
<td>20</td>
<td>25.64%</td>
</tr>
<tr>
<td>CLASS-TEACHERS</td>
<td>1276</td>
<td>100</td>
<td>7.84%</td>
</tr>
<tr>
<td>STUDENTS</td>
<td>25253</td>
<td>800</td>
<td>3.16%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>26607</td>
<td>920</td>
<td>3.45%</td>
</tr>
</tbody>
</table>

As shown in Table 3.1, the only sample which was adequately representative of the parent population was that of head-teachers (25.64 percent).

### 3.2 PROCEDURE OF SAMPLE SELECTION

#### 3.2.1 SCHOOL SELECTION PROCEDURE

A list of secondary schools in the study area was procured from the Ministry of Education. This list provided the researcher with the following information:
a) Names of schools.

b) Nature of each school, in terms of whether the school was 'Maintained', 'Unmaintained', 'Assisted' or 'Private'.

c) Type of each school, in terms of whether the school was of Day Boys, Day Girls, Day Co-educational, Boarding Boys, Boarding Girls or Boarding Co-educational status.

Out of the 78 secondary schools in the list, 20 were selected using the stratified random sampling method. This method took into account the unique characteristics of schools in each strata. All the schools in the list were initially distributed into the following classifications:-

i) Nature of school.

ii) Type of school.

Tables 3.2 and 3.3 illustrate the actual distributions:-

```
TABLE 3.2
DISTRIBUTION BY NATURE OF SCHOOL

<table>
<thead>
<tr>
<th>NATURE OF SCHOOL</th>
<th>MAINTAINED</th>
<th>PRIVATE</th>
<th>UNMAINTAINED</th>
<th>ASSISTED</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF SCHOOLS</td>
<td>32</td>
<td>24</td>
<td>18</td>
<td>4</td>
<td>78</td>
</tr>
</tbody>
</table>
```

As shown in Table 3.2, there were four school categories into which the 78 schools were distributed. The majority of schools were found to be either government or privately maintained, that is, 32 and 24 schools respectively. Only 4 schools were found to be of the government-assisted status.
In Table 3.3, it was shown that there were five types of school. Of the 78 schools in the list, the majority were classified under the day co-educational, day boys' and day girls' school categories, that is, 26, 18 and 19 schools respectively.

The categories illustrated in Tables 3.2 and 3.3 therefore comprised the essential strata forming the basis of this study.

The actual selection of schools for research purposes was done on the basis of the strata in Table 3.3 namely: Day Boys (DB), Day Girls (DG), Day Co-educational (DC), Boarding Boys (BB) and Boarding Girls (BG). The decision to use only one distribution was made in order to avoid the anticipated sampling problems that would arise in the attempt to utilize both distributions. For example, there was no private school of the Boarding Boys or Boarding Girls category. Hence the school distribution in Table 3.3 was found to be more representative, and therefore more suitable for the purpose of this study.

The school selection procedure was as follows:-

<table>
<thead>
<tr>
<th>TYPE OF SCHOOL</th>
<th>DAY BOYS</th>
<th>DAY GIRLS</th>
<th>DAY CO-EDUCATIONAL</th>
<th>BOARDING BOYS</th>
<th>BOARDING GIRLS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF SCHOOLS</td>
<td>19</td>
<td>18</td>
<td>26</td>
<td>9</td>
<td>6</td>
<td>78</td>
</tr>
</tbody>
</table>
a) For each stratum in Table 3.3 names of schools were written on slips of paper. The paper slips were all of a uniform size. The individual pieces of paper were then folded into anonymous ball shapes.

b) The ball-shaped papers were then placed in a small box which was then closed and shaken vigorously to shuffle them.

c) The required number of schools in a stratum were then selected by randomly picking the same number of folded balls of paper from the box. The names of the schools selected were read off the same pieces of paper.

This procedure was used for all strata in selection of schools. The final distribution of samples by type of school was as shown below.

**TABLE 3.4**

**THE DISTRIBUTION OF SUBJECTS BY TYPE OF SCHOOL**

<table>
<thead>
<tr>
<th>TYPE OF SCHOOL</th>
<th>SELECTED NUMBER OF:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SCHOOLS</td>
<td>HEADTEACHERS</td>
<td>CLASS-TEACHERS</td>
<td>STUDENTS</td>
<td></td>
</tr>
<tr>
<td>DAY BOYS</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>DAY GIRLS</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>DAY CO-EDUCATIONAL</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>BOARDING BOYS</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>BOARDING GIRLS</td>
<td>4</td>
<td>4</td>
<td>20</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>20</td>
<td>20</td>
<td>100</td>
<td>800</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 3.4, each school stratum was represented by four schools, four headteachers, 20 class-teachers and 160 students.

N.B. The actual distribution of respondents by type of school is illustrated in table 4.1.
3.3.2 SELECTION PROCEDURE FOR STUDENTS' AND TEACHERS' SAMPLES

i) STUDENTS' SAMPLE

It was planned that 40 students in each fourth form would be selected in this study. The procedure for sample selection in the event of student enrolment exceeding 40 was to rank the students in such a class from 1 to N, after which the required number of students (40) would be selected at random. The 'lucky draw' technique was hence prescribed here. However, in the event of a school having more than one form four stream, simple random sampling was employed to select one class. Further random sampling was prescribed if student enrolment in the chosen class exceeded 40.

ii) CLASS-TEACHERS' SAMPLE

Five class-teachers in each of the four schools chosen in a specific strata were to be selected using simple random sampling. This was applied through the systematic ranking of class-teachers in the selected school, from 1 to N and randomly selecting five of them. The 'lucky draw' technique was recommended once more.
iii) HEAD-TEACHERS' SAMPLE

The headteachers were all institutionally based. This meant that the school-head in the selected school automatically became a participant in this study.

3.4 DATA COLLECTION INSTRUMENTS

The researcher selected a set of questionnaires as a tool for data collection. The questionnaires were designed as follows:-

a) Questionnaire for form 4 students
b) Questionnaire for class-teachers and headteachers.

All the questions in the two questionnaires were based on the broad study objectives summarized below:-

a) To examine critically, the issue of drug abuse in Nairobi secondary schools, with the primary aim of determining the levels, patterns and trends of drug abuse in the same schools.
b) To determine the feasibility of drug education in urban secondary schools.

3.5 THE CONTENT OF THE QUESTIONNAIRES

A) THE STUDENTS' QUESTIONNAIRE

A three-part self-report questionnaire was constructed and was based on the various dimensions of the drug problem that had been identified in urban schools in Kenya and elsewhere. The dimensions covered in these sections were as follows:-
i) **Background Information**

In this section, the subjects were expected to give information on their age, sex, and the type of school to which they went.

ii) **OPINION ON DRUG USE**

In this important section, the main information sought was on:

a) Whether the subjects had ever used drugs and if they had, to identify these drugs and indicate if drug use continued.

b) The length and rate of drug use, and the expenditure level; and the names of the most popular drugs used.

c) The initiating factors in drug use.

d) Whether friends used drugs, and if they did, the types of drugs used.

e) Whether parents used drugs.

f) The subject's opinions on the effects of drugs on the social, economic and educational performance of students.

iii) **Attitude Towards Preventive Drug Education**

In the third and last section in this questionnaire, the information sought included:-

a) The identification of preventive measures that could be developed as an effective strategy for controlling drug abuse.

b) An assessment of the effectiveness of any preventive methods to which the subjects had been exposed.

c) The identification of methods that had been used by former drug users in stopping the habit.
**B) THE TEACHERS' QUESTIONNAIRE**

This questionnaire was presented in four sections. These were as follows:

i) **Background Information on Class-Teachers and Headteachers:**

In this section, the subjects were expected to give information on their age, sex, professional and academic qualifications, teaching experience, drug management experience, and the type of school in which they worked.

ii) **Class-Teachers' and Headteachers' Attitudes Towards the Drug Problem**

In this section, the main information sought was on:

a) Whether there existed any drug cases in the teachers' school.

b) The general distribution of drug users in co-educational schools.

c) The approximate age-groups of known drug users in each school.

d) An identification of drugs most frequently used in each school; and the identification of the possible drug sources.

e) The assessment of corrective measures taken by the school authorities in the event of drug use by students.

f) The identification of negative effects of drug use.

g) Assessment of the initiating factors in drug use.
iii) Class-Teachers' and Head-teachers' Attitudes Towards Drug Education

The main information sought in this section was on:-

a) Whether the teachers' school offered any form of drug education or even related information; and if it did, details of the same; and the identification of the constraints encountered in implementing it.

b) The subjects' assessment of the level of drug abuse in the society, and the feasibility of a nationwide drug education programme.

iv) Headteachers' Opinions on the Scope and Method of Drug Education

In this section, the headteachers were expected to provide information on the following:-

a) How a drug education programme may be developed: its objectives, the educational materials to be utilized, the organization of the project, and the target groups of such a programme.

b) The anticipated bottlenecks in the establishment of preventive education programmes.

c) Views of subjects on how the Ministry of Education, Science and Technology could assist in enhancing drug education.

3.6 DEVELOPMENT OF THE QUESTIONNAIRES

In the development of the questionnaires, two techniques were employed. These were the multiple choice and the open-ended techniques.
a) **Multiple Choice Technique**

This technique was favoured in this study because of the following reasons:-

i) It allowed easier and more accurate analysis of the questionnaire, hence enabling the researcher to make precise interpretations of subjects' responses.

ii) This method allowed a high degree of subjects' objectivity in the making of responses and at the same time reduced the problem of distorted responses.

Initially, it was expected that 60 percent of the questions in both questionnaires would be in this format. However, with a large sample size of students, it was felt that such a large number of questionnaires with free responses would be extremely difficult to analyze accurately. Thus, the students' questionnaire was basically of the multiple choice type.

b) **Open-ended Technique**

In the questionnaire for teachers, open-ended questions were considered feasible in order to allow for personal opinions of the subjects. Hence, approximately 80 percent of the questions in this questionnaire were of the multiple choice format.

3.7 **PRE-TESTING QUESTIONNAIRES**

The student's questionnaire was presented to a sample of 40 students in a co-educational school in the study area.
The teachers' questionnaire was administered to 10 subjects in the same school. The aim of piloting the questionnaires was to edit both content and face validity. The test-retest reliability for attitude towards drug use, scope of drug education, and the general perception of the drug problem in urban secondary schools were then calculated. In this respect, all ambiguous items were modified into a more suitable form.

3.8 ADMINISTRATION OF THE QUESTIONNAIRES

The method chosen in the administration of questionnaires was the direct method. This meant that all the questionnaires were distributed by the researcher, directly to the subjects.

All the instructions were read out and clarifications made promptly where applicable. In over 80 percent of the schools, the questionnaires were administered and collected on the same day from each institution. The direct method of questionnaire administration was found to have the following advantages:

a) The researcher was able to discuss promptly any problems that arose, mainly in the interpretation of items in the questionnaires.
b) It was possible to straighten out any doubts and negative attitudes that the subjects may have had. Such doubts and negative attitudes could have hindered the success of this research, had they gone uncorrected.

c) This method of questionnaire administration enabled the researcher to talk directly to the subjects and hence convince them of the importance of this study.

d) Direct questionnaire administration helped correct for local factors like boredom. In this study, the researcher found it necessary to motivate the subjects (especially the students), since they were clearly 'questionnaire saturated'. This meant that the subjects had been presented with too many other unrelated questionnaires in a very short time period, to the extent that some of the questionnaires were yet to be completed.

3.9 **ANALYSIS OF DATA**

Inferential statistics using the chi-square test was used to determine the significance of the results obtained. Other non-parametric inferential statistics utilized in analysing this study's data included percentages and proportions.
As noted by Slavin (1984):

"The most widely used non-parametric statistic is chi-square ($X^2$) which is used whenever data are frequently counts, such as the number of individuals into particular categories......".

In view of this observation, the current study was based on school strata, resulting in data in the form of frequencies, hence the choice of the chi-square method of hypothesis testing. This method was also chosen since the data was not normally distributed. Furthermore, it is a method that can be used with two or more groups in order to test association. All tests on the null hypotheses identified in Chapter 2 were done at 0.05 level of significance, with the Yates' correction for continuity being prescribed where applicable (See Appendix C).
CHAPTER 4

4.0 ANALYSIS OF RESULTS

4.1 INTRODUCTION

As expounded in the section on methodology, data was collected using a set of questionnaires, and the 'prima facie' source of research information was the students' questionnaire.

In this Chapter, a report of the results from the hypotheses tested, is presented. To facilitate systematic analysis, the hypotheses were categorized into six basic themes:

i) The relationship between sex and age in drug use (Section 4.2).

ii) The relationship between school category, sex and age in drug use (Section 4.3).

iii) The relationship between sex of drug user, and pattern of drug use (Section 4.4).

iv) The relative roles of friends and parents as models in drug use (Section 4.5).

v) The relationship between the type of drug used, sex of drug user, and the type of school to which the user went (Section 4.6).

vi) The role of disciplinary systems and home background in drug use (Section 4.7).

Due to the nature of this research the chi-square technique was found to be most applicable for testing the null hypotheses. Where applicable, the Yates' correction for continuity was employed as recommended by Hardyck and Petrinovich (1969).
TABLE 4.1
THE DISTRIBUTION OF RESPONDENTS, BY NATURE AND TYPE OF SCHOOL

<table>
<thead>
<tr>
<th>SCHOOL IDENTIFICATION CODES</th>
<th>SCHOOL CATEGORIES</th>
<th>NUMBER OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NATURE OF SCHOOL</td>
<td>TYPE OF SCHOOL</td>
</tr>
<tr>
<td></td>
<td>CODES</td>
<td>STUDENTS</td>
</tr>
<tr>
<td>A</td>
<td>U</td>
<td>DG</td>
</tr>
<tr>
<td>B</td>
<td>M</td>
<td>BG</td>
</tr>
<tr>
<td>C</td>
<td>M</td>
<td>BG</td>
</tr>
<tr>
<td>D</td>
<td>M</td>
<td>BB</td>
</tr>
<tr>
<td>E</td>
<td>U</td>
<td>DG</td>
</tr>
<tr>
<td>F</td>
<td>M</td>
<td>DB</td>
</tr>
<tr>
<td>G</td>
<td>P</td>
<td>DC</td>
</tr>
<tr>
<td>H</td>
<td>U</td>
<td>DC</td>
</tr>
<tr>
<td>I</td>
<td>M</td>
<td>BG</td>
</tr>
<tr>
<td>J</td>
<td>M</td>
<td>BB</td>
</tr>
<tr>
<td>K</td>
<td>M</td>
<td>DG</td>
</tr>
<tr>
<td>L</td>
<td>M</td>
<td>DG</td>
</tr>
<tr>
<td>M</td>
<td>M</td>
<td>DB</td>
</tr>
<tr>
<td>N</td>
<td>M</td>
<td>BG</td>
</tr>
<tr>
<td>O</td>
<td>M</td>
<td>DB</td>
</tr>
<tr>
<td>P</td>
<td>P</td>
<td>DC</td>
</tr>
<tr>
<td>Q</td>
<td>M</td>
<td>DB</td>
</tr>
<tr>
<td>R</td>
<td>P</td>
<td>DC</td>
</tr>
<tr>
<td>S</td>
<td>M</td>
<td>BB</td>
</tr>
<tr>
<td>T</td>
<td>M</td>
<td>BB</td>
</tr>
</tbody>
</table>

n = 20

727 92 12

KEY FOR SCHOOL CATEGORIES
a) U UNMAINTAINED SCHOOL b) DB DAY BOYS
M MAINTAINED SCHOOL DG DAY GIRLS
P PRIVATE SCHOOL DC DAY CO-EDUCATIONAL
BB BOARDING BOYS
BG BOARDING GIRLS
As shown in Table 4.1, the distribution of subjects was made in terms of the school categories to which they belonged. Hence, out of the 20 schools in the sample, there were three privately maintained, three unmaintained and 14 government maintained schools. Each of the school categories listed in key (b) had four schools. The total number of subjects from all schools was 831.

4.2 THE RELATIONSHIP BETWEEN SEX AND AGE IN DRUG USE

In this study, one of the aims was to determine whether there was a statistically significant difference between male and female students in drug use (Hypothesis 1). As shown in Table 4.2, there were relatively more drug users among the boys than the girls, especially in the age-range 17 - 21. However, the majority of female drug users tended to be in the age range 14 - 16.

<table>
<thead>
<tr>
<th>SEX</th>
<th>14 - 16</th>
<th>17 - 21</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIRLS</td>
<td>169(39)*</td>
<td>160(22)</td>
<td>329(61)</td>
</tr>
<tr>
<td>BOYS</td>
<td>157(63)</td>
<td>241(148)</td>
<td>398(211)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>326(102)</td>
<td>401(170)</td>
<td>727(272)</td>
</tr>
</tbody>
</table>

*The numbers of drug users in the sample are shown in brackets, and the numbers without brackets reflect the sample dimensions. The equivalent percentages of drug users among the girls and boys were 18.5 percent and 53 percent respectively.
A chi-square test was used to investigate whether the foreseen sex differences in drug use were statistically significant. It was found that, at $p \leq 0.05$, a $X^2 = 23.36; \text{d.f.} = 3$ was significant. This implied that there was a significant sex difference in drug use. Thus, the null hypothesis was rejected.

The relatively high male prevalence of drug use was associated with the general male tendency to 'drift' to drugs, especially through curiosity motivated by friends, peer-group members and adults; while females generally used drugs for a specific reasons, say, psychological stress or any other specific precipitating factors and circumstances.

4.3 THE RELATIONSHIP BETWEEN SCHOOL CATEGORIES, THE AGE, AND SEX, IN DRUG USE

To establish the existence of the relationship between the above variables, four specific hypotheses were tested. Chi-square tests were used to determine whether the foreseen differences in drug use were statistically significant between day and boarding students (hypothesis 2); between students in boys', girls' and co-educational secondary schools (hypothesis 3); between students in day boys', day girls', day co-educational, boarding boys', and boarding girls' schools (hypothesis 4); and finally, between students in maintained, unmaintained and private secondary schools (hypothesis 5).
4.3.1 TESTING OF HYPOTHESIS 2

H₂: There is no significant difference in drug use between day and boarding students in Nairobi secondary schools.

TABLE 4.3

DISTRIBUTION OF DRUG USERS, BY TYPE OF SCHOOL, SEX AND AGE

<table>
<thead>
<tr>
<th>SEX AND AGE</th>
<th>TYPE OF SCHOOL</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DAY</td>
<td>BOARDING</td>
<td>TOTAL</td>
<td></td>
</tr>
<tr>
<td>GIRLS</td>
<td>14 - 16</td>
<td>62(9)</td>
<td>89(30)</td>
<td>151(39)</td>
</tr>
<tr>
<td></td>
<td>17 - 21</td>
<td>136(17)</td>
<td>15(5)</td>
<td>151(22)</td>
</tr>
<tr>
<td>BOYS</td>
<td>14 - 16</td>
<td>60(28)</td>
<td>115(35)</td>
<td>175(63)</td>
</tr>
<tr>
<td></td>
<td>17 - 21</td>
<td>200(122)</td>
<td>50(26)</td>
<td>250(148)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>458(176)</td>
<td>269(96)</td>
<td>727(272)</td>
</tr>
</tbody>
</table>

In Table 4.3, it is shown that there were relatively more drug users among students in day schools, than in boarding schools. Boys dominated in drug use at all age ranges. However, in order to establish whether these differences were statistically significant, a chi-square test was used. The analysis indicated that, at p<0.05, a \( \chi^2(=62.688; \text{d.f.}=3) \) was significant, which implied that there was a significant difference in drug use between day and boarding students in the sample. Thus, the null hypothesis was rejected.

The relatively high prevalence of drug use among day-scholars was associated with their close contact with peddlers, pushers and other drug sources.
4.3.2 TESTING OF HYPOTHESIS 3

H₃: There is no significant difference in drug use between students in boys', girls' and co-educational secondary schools in Nairobi.

TABLE 4.4

<table>
<thead>
<tr>
<th>TYPE OF SCHOOL</th>
<th>AGE 14-16</th>
<th>AG 17-21</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIRLS ONLY</td>
<td>135(38)</td>
<td>129(17)</td>
<td>264(55)</td>
</tr>
<tr>
<td>BOYS ONLY</td>
<td>164(60)</td>
<td>148(88)</td>
<td>312(148)</td>
</tr>
<tr>
<td>CO-EDUCATIONAL</td>
<td>27(4)</td>
<td>124(65)</td>
<td>151(69)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>326(102)</td>
<td>401(170)</td>
<td>727(272)</td>
</tr>
</tbody>
</table>

As shown in Table 4.4, there were relatively more drug users in boys' schools, than in the other two school categories. However, a chi-square test was used to investigate whether the foreseen school-type difference in drug use was statistically significant, and it was revealed that, at p<0.05, a $\chi^2(=53.726; \text{d.f.}=2)$ was significant. This implied that there was a significant difference in drug use between students in boys', girls' and co-educational secondary schools in the sample, and the null hypothesis was rejected.

It had been expected that subjects in boys' schools would be more prevalent in drug use relative to those in girls' and co-educational schools, in accordance with the reasons given for male dominance in drug use (hypothesis 1).
4.3.3 TESTING OF HYPOTHESIS 4

H₄: Drug use among students in day boys' secondary schools is not significantly different from that of students in day girls', day co-educational, boarding boys' and boarding girls secondary schools in Nairobi.

<table>
<thead>
<tr>
<th>TYPE OF SCHOOL</th>
<th>AGE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14 - 16</td>
<td>17 - 21</td>
</tr>
<tr>
<td>DAY BOYS</td>
<td>49(25)</td>
<td>98(62)</td>
</tr>
<tr>
<td>DAY GIRLS</td>
<td>46(8)</td>
<td>114(12)</td>
</tr>
<tr>
<td>DAY CO-EDUCATIONAL</td>
<td>27(4)</td>
<td>124(65)</td>
</tr>
<tr>
<td>BOARDING BOYS</td>
<td>115(35)</td>
<td>50(26)</td>
</tr>
<tr>
<td>BOARDING GIRLS</td>
<td>89(30)</td>
<td>15(5)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>326(102)</td>
<td>401(170)</td>
</tr>
</tbody>
</table>

In Table 4.5, it is shown that the day boys' school category had relatively more drug users than the other two categories. In order to investigate whether the foreseen school-type differences in drug use were statistically significant, a chi-square test was used, the results of which indicated that, at p<0.05, a $X^2(=77.596; \text{ d.f.}=4)$ was significant. This implied that there was a significant difference in drug use between the subjects in the specified school categories hence, the null hypothesis was rejected.
At par with the results of previous hypothesis testing (hypotheses 1 and 3), it was expected that the subjects in day boys' schools would be more prevalent in drug use, relative to the other school categories, at both age ranges. The main reasons for this were, firstly, the general male tendency to drift to drugs, and secondly, the ease with which the average day-scholar was able to procure various psycho-active substances.

4.3.4 TESTING OF HYPOTHESIS 5

H₅: There is no significant difference in drug use between students in maintained, unmaintained and private secondary schools in Nairobi.

| TABLE 4.6 |
| DISTRIBUTION OF DRUG USERS, BY NATURE OF SCHOOL, AGE AND SEX |

<table>
<thead>
<tr>
<th>NATURE OF SCHOOL</th>
<th>14 - 16</th>
<th>17 - 21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOYS</td>
<td>GIRLS</td>
</tr>
<tr>
<td>GOVERNMENT MAINTAINED</td>
<td>145(60)</td>
<td>138(36)</td>
</tr>
<tr>
<td>UNMAINTAINED</td>
<td>2(0)</td>
<td>15(2)</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>10(4)</td>
<td>16(0)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>157(64)</td>
<td>169(38)</td>
</tr>
</tbody>
</table>

As shown in Table 4.6, there were relatively more drug users in private schools than in the unmaintained and government maintained schools. A chi-square test was used to investigate whether the foreseen school category difference in drug use was statistically significant.
This analysis revealed that, at \( p \leq 0.05 \), a \( \chi^2 = 39.709; \) d.f. = 6 was significant. This implied that there was a significant difference in drug use between students in maintained, private and unmaintained secondary schools in the sample. Hence, the null hypothesis was rejected.

The relatively high prevalence of drug use among students in private schools mainly originated from the poor disciplinary system prevailing in such primarily commercial institutions.

4.4 THE RELATIONSHIP BETWEEN THE SEX OF DRUG USER, AND THE PATTERN OF DRUG USE (HYPOTHESIS 6)

In the study of the various dimensions of drug use in the sample, it was one of the major aims to establish whether there was a significant difference between the number of male and female subjects who had used drugs at least once, and those who used drugs on a relatively regular basis.

<table>
<thead>
<tr>
<th>TABLE 4.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISTRIBUTION OF DRUG USERS BY SEX OF USER, AND PATTERN OF USE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DRUG USE PATTERN</th>
<th>SEX OF SUBJECT</th>
<th></th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td></td>
</tr>
<tr>
<td>REGULAR DRUG USE*</td>
<td>102</td>
<td>29</td>
<td>131</td>
</tr>
<tr>
<td>EXPERIMENTAL DRUG USE**</td>
<td>107</td>
<td>31</td>
<td>138</td>
</tr>
<tr>
<td>INTERMITTENT DRUG USE***</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>211</td>
<td>*61</td>
<td>272</td>
</tr>
</tbody>
</table>
* The use of psycho-active substances (drugs) continued systematically after the experimental phase.

** The use of psycho-active substances ceased after the initial or introductory phase.

*** The use of psycho-active substances continued but at irregular intervals.

In Table 4.7, it is shown that there were relatively more subjects involved in regular and experimental drug use, than intermittent drug use. In order to establish whether the differences in drug use patterns were statistically significant, a chi-square test was used and the results indicated that, at $p \leq 0.05$, $X^2(=0.20026, \text{ d.f.}=2)$ was not significant. This implied that there was no significant difference between the number of subjects who had used drugs at least once, and those who continued using drugs as a regular habit. Hence, the null hypothesis was accepted.

The main reason for expecting such a result is that in most cases of drug addiction, the majority of experimenters eventually become casual and regular users.
4.5 INVESTIGATION OF THE ROLE OF FRIENDS AND PARENTS AS MODELS IN DRUG USE

An investigation was made of the role played by friends and parents in initiating high-risk youths to drug use. The chi-square method was utilized in determining whether there were statistically significant differences between the number of subjects whose friends and parents used drugs, and those who did not (Hypotheses 7 and 8).

4.5.1 TESTING OF HYPOTHESIS 7

\( H_7: \) There is no significant difference between the number of drug users whose parents used drugs, and that of drug users whose parents did not indulge in drug abuse.

<table>
<thead>
<tr>
<th>ATTITUDE OF PARENTS TOWARDS DRUGS</th>
<th>SEX OF SUBJECT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARENT(S) USED DRUGS</td>
<td>58</td>
<td>19</td>
</tr>
<tr>
<td>PARENT(S) DID NOT USE DRUGS</td>
<td>148</td>
<td>41</td>
</tr>
<tr>
<td>TOTAL</td>
<td>206</td>
<td>60</td>
</tr>
</tbody>
</table>

In Table 4.8, it is shown that most of the subjects on drugs had parents who never used any medically unprescribed drugs. In order to establish whether the foreseen differences in parents' drug use were statistically significant, a chi-square test was used and the results of this analysis showed that, at \( p \leq 0.05 \), a \( \chi^2 = 0.2674, \text{ d.f.} = 1 \) was not significant.
This implied that there was no significant difference between the number of drug users whose parents used drugs, and that of drug users whose parents did not indulge in drug abuse. Hence, the null hypothesis was accepted.

From the current results, it can be deduced that both drug using and non-using parents were equally unable to maintain strict disciplinary control over their siblings, hence, the latter were able to take on their friends', peers and parents negative behaviour.

4.5.2 TESTING OF HYPOTHESIS 8

H₈: There is no significant difference between the number of drug users whose friends used drugs, and that of drug users whose friends did not indulge in drug abuse.

<p>| ATTITUDE OF FRIENDS | SEX OF SUBJECT |</p>
<table>
<thead>
<tr>
<th>TOWARDS DRUGS</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRIENDS USED DRUGS</td>
<td>175</td>
<td>47</td>
<td>222</td>
</tr>
<tr>
<td>FRIENDS DID NOT USE DRUGS</td>
<td>36</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>TOTAL</td>
<td>211</td>
<td>61</td>
<td>272</td>
</tr>
</tbody>
</table>
As shown in Table 4.9, the majority of drug users had friends who also used drugs. In order to establish whether the foreseen differences in friends' drug use were statistically significant, a chi-square test was used and the results indicated that, at $p \leq 0.05$, a $\chi^2(1, 104; d.f.=1)$ was not significant. This implied that there was no significant difference between the number of male and female drug users whose friends used drugs and that of male and female drug users whose friends did not use drugs. Thus, the null hypothesis was accepted.

From the data in Table 4.9, and the results of hypothesis testing, there is strong evidence that the male and female subjects were not significantly different in their susceptibility to the influence of friends towards drug use. Further, there existed a positive correlation between friends' and the individuals' use of drugs, which implied that friends played a substantial role in initiating each other to drug use.

4.6 THE RELATIONSHIP BETWEEN THE TYPE OF DRUG USED, AND THE TYPE OF SCHOOL TO WHICH THE USER BELONGED

A study was made of the various drugs of abuse that were used by subjects in various schools in the sample.
The chi-square method was employed in investigating whether a statistically significant difference existed between the types of drugs used by students in maintained, unmaintained, and private schools (hypothesis 9); students in day girls', boarding girls', boarding boys', day boys' and day co-educational schools (Hypothesis (10); and between the types of drugs used by male and female students in the sample (Hypothesis 11).

4.6.1 TESTING OF HYPOTHESIS 9

H₉: There is no significant difference between the types of drugs used by students in maintained, unmaintained and private secondary schools in Nairobi.
As shown in Table 4.10, the number of subjects using each drug was relatively greater in maintained schools than in the unmaintained and private school categories. In order to investigate whether these differences in drug use were statistically significant, a chi-square test was used, and the results of this analysis indicated that, at $p \leq 0.05$, a $X^2(=10.6376, \text{d.f.}=12)$ was not significant. This implied that there was no significant difference between the types of drugs used by students in the maintained, unmaintained and private secondary schools. Hence, the null hypothesis was accepted.
In the light of these results, it is implied that all the specified types of drugs were available in the three school categories, and the consumption patterns were not significantly different. However, the researcher had expected these specified drugs to be in use at different levels in the three school strata.

4.6.2 TESTING OF HYPOTHESIS 10

\( H_{10} \): There is no significant difference between the types of drugs used by students in day girls', boarding girls', boarding boys', day boys and day co-educational secondary schools in Nairobi.

<table>
<thead>
<tr>
<th>TABLE 4.11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPES OF DRUGS USED: THE DISTRIBUTION OF DRUG USERS BY TYPE OF SCHOOL</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE OF DRUG</th>
<th>NUMBER OF SUBJECTS USING EACH DRUG</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DAY BOYS</td>
<td>DAY GIRLS</td>
<td>DAY CO-EDUCATIONAL BOYS</td>
</tr>
<tr>
<td>TOBACCO</td>
<td>53</td>
<td>9</td>
<td>45</td>
<td>54</td>
</tr>
<tr>
<td>MIRAA</td>
<td>40</td>
<td>9</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>ALCOHOL</td>
<td>67</td>
<td>13</td>
<td>53</td>
<td>30</td>
</tr>
<tr>
<td>MEDICAL-PREPARATIONS</td>
<td>11</td>
<td>0</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>COCAINE/HEROIN</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>PETROL/GLUE</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>BHANG</td>
<td>29</td>
<td>6</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>208</td>
<td>40</td>
<td>142</td>
<td>129</td>
</tr>
</tbody>
</table>
In Table 4.11, it is shown that the number of subjects using each drug was relatively greater in day boys' schools than in the other school categories and to establish whether these drug use levels were statistically significant, a chi-square test was used. The results indicated that, at $p \leq 0.05$, a $X^2(=62.9418, \text{ d.f.}=24)$ was significant. This implied that there was a significant difference between the types of drugs used by students in the specified school categories. Thus, the null hypothesis was rejected.

The relatively high prevalence of drug use among subjects in day boys' schools arose from their easier access to drugs, than, for example, their counterparts in boarding school; and the general male tendency to 'drift' to drug use.

4.6.3 TESTING OF HYPOTHESIS 11

$H_{11}^*$: There is no significant difference between the types of drugs used by male and female students in Nairobi secondary schools.
### TABLE 4.12

**TYPES OF DRUGS USED: THE DISTRIBUTION OF DRUG USERS BY SEX**

<table>
<thead>
<tr>
<th>TYPE OF DRUGS USED</th>
<th>NUMBER OF SUBJECTS USING EACH DRUG</th>
<th>T O T A L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SEX OF SUBJECT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>TOBACCO</td>
<td>152</td>
<td>25</td>
</tr>
<tr>
<td>MIRAA</td>
<td>86</td>
<td>30</td>
</tr>
<tr>
<td>ALCOHOL</td>
<td>148</td>
<td>40</td>
</tr>
<tr>
<td>MEDICAL-PREPARATIONS</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>COCAINE/HEROIN</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>PETROL/GLUE</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>BHANG</td>
<td>49</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>477</td>
<td>113</td>
</tr>
</tbody>
</table>

As shown in Table 4.12, the number of subjects using each of the specified drugs was relatively greater among the males than the females. In order to investigate whether these sex differences in drug use were statistically significant, a chi-square test was used, and the results of this analysis revealed that, at \( p \leq 0.05 \), \( \chi^2 = 9.073 \); d.f. = 6), was not significant. This implied that there was no significant difference between the types of drugs used by male and female students in the sample. Hence, the null hypothesis was accepted.
The inference resulting from the above analysis was rather unexpected because the researcher anticipated that some of the drug types would be favoured by subjects of one sex and not the other. For example, it was hardly expected that female subjects would indulge in petrol and glue sniffing, but the data in Table 4.12 shows the active participation of female subjects in volatile-solvent use.

4.7 THE ROLE OF DISCIPLINARY SYSTEMS AND HOME BACKGROUND IN DRUG USE

Under this general theme, an investigation was made of whether there was a statistically significant difference in drug use between subjects living with parents, or close relatives and those accommodated in boarding schools (hypothesis 12); and between subjects living in homes that had autocratic, democratic or 'Laissez-faire' disciplinary systems (hypothesis 13).

4.7.1 TESTING OF HYPOTHESIS 12

H₁₂: There is no significant difference in drug use, between male and female subjects living with parents, close relatives, or those accommodated in boarding school.
TABLE 4.13

DISTRIBUTION OF DRUG USERS IN RELATION TO WHERE THEY LIVED DURING SCHOOL DAYS

<table>
<thead>
<tr>
<th>RESIDENCE</th>
<th>SEX OF SUBJECT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td>TOTAL</td>
</tr>
<tr>
<td>PARENTS' HOME</td>
<td>96</td>
<td>54</td>
<td>150</td>
</tr>
<tr>
<td>CLOSE RELATIVES' HOME</td>
<td>20</td>
<td>18</td>
<td>38</td>
</tr>
<tr>
<td>BOARDING SCHOOL</td>
<td>54</td>
<td>30</td>
<td>84</td>
</tr>
<tr>
<td>TOTAL</td>
<td>170</td>
<td>102</td>
<td>272</td>
</tr>
</tbody>
</table>

As shown in Table 4.13, there were relatively more drug users among subjects living with their parents, than those who lived with close relatives or those who were accommodated in school, while school was in session. A chi-square test was done to investigate whether the foreseen differences in drug use were statistically significant. The results revealed that, at $p \leq 0.05$, a $\chi^2 (=1.836; \text{d.f.}=2)$, was not significant. This implied that there was no significant difference between the number of drug users living with parents, close relatives, or accommodated in school. Hence, the null hypothesis was accepted.

In view of the inferences of the above analysis, it was generalized that, the schooling youths were equally prone to drug addiction irrespective of where they lived.
4.7.2 TESTING OF HYPOTHESIS 13

\[ H_{13} : \text{There is no significant difference in drug use,} \]
\[ \text{between male and female subjects living in homes} \]
\[ \text{with strict (autocratic), minimal (democratic),} \]
\[ \text{and no (Laissez-faire) disciplinary control.} \]

<table>
<thead>
<tr>
<th>TYPE OF DISCIPLINARY SYSTEM</th>
<th>SEX OF SUBJECT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>AUTOCRATIC</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>DEMOCRATIC</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>LAISSEZ-FAIRE</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>22</td>
<td>16</td>
</tr>
</tbody>
</table>

As shown in Table 4.14, there were relatively more drug users among the subjects living with close relatives who maintained strict disciplinary control at home. A chi-square test to establish whether the foreseen differences in drug use were statistically significant, revealed that, at \( p \leq 0.05 \), a \( X^2 (=1.1046; d.f.=2) \), was not significantly different. This implied that there was no significant difference between the number of male and female drug users living in homes with autocratic, democratic and laissez-faire disciplinary systems. Hence, the null hypothesis was accepted.
In view of the inferences of the above analysis, it was deduced that the male and female subjects were equally prone to drug use irrespective of the disciplinary system prevailing at home.
5.0 DISCUSSIONS, CONCLUSIONS, IMPLICATION AND RECOMMENDATIONS

In this Chapter, the discussions, conclusions, implications and recommendations were made under the same general themes used in the presentation of results in Chapter 4.

5.1 DISCUSSIONS AND SPECIFIC CONCLUSIONS FROM THE RESEARCH FINDINGS

5.1.1 THE RELATIONSHIP BETWEEN SEX AND AGE IN DRUG USE (HYPOTHESIS I)

The relatively high male prevalence of drug use was associated with the general male tendency to drift to drug use (Burlee, 1969) through curiosity, and especially motivated by friends and peer group members. The relatively low prevalence of drug use among female subjects was attributed to the general female tendency to use drugs for specific reasons, say, psychological stress, or any other precipitating circumstances (Hendin, 1974; Beckman, 1975). In this study, the majority of female drug users tended to be in their adolescence stage (Table 4.2), which implied that girls at this stage of maturity tended to use drugs to counter adolescence-related stresses.
Nevertheless, it should not be construed to mean that all males drifted to drug use, and all females used drugs for a specific reason, as the study by Edwards (1973) showed that the motivated structures which activated drug use in males and females were roughly similar.

5.1.2 THE RELATIONSHIP BETWEEN SCHOOL CATEGORY, SEX AND AGE IN DRUG USED (HYPOTHESES 2, 3, 4, AND 5)

A statistically significant difference was found between day and boarding students, in drug use (Hypothesis 2). The main reason for expecting day-scholars to be more prevalent in drug use was the fact that they were in closer contact with peddlers, pushers, and other drug sources, than boarders. It was also acknowledged that the disciplinary systems in existence in day schools had relaxed significantly, relative to those in boarding schools, a feature which was manifested in the school administrations' tolerance to deviance that had previously been viewed with concern. This fact was also stressed by Ochieng' (1986).

The subjects in this study were in the developmental stage of adolescence (Table 4.3), hence the anxieties and crises of adolescence were often manifested in drug use, especially among the day-scholars who were in close contact with drug sources. This significant relationship between drug use and adolescence was also studied by Mejia (1974), Levy (1970), Meloff (1967), and Maddox (1964).
A statistically significant difference in drug use was found between students in boys', girls' and co-educational secondary schools in the sample (Hypothesis 3). This result was expected, in view of the general male tendency to drift to drug use (see Section 5.1.1). However, in relation to the secondary schools, it was noted that poor disciplinary systems prevailed in such institutions mainly because most of the schools belonging to this category in the sample, were privately maintained (Table 4.1). Hence, there was no doubt that a significant difference existed in drug use, between subjects in the specified school categories.

It was determined that, at the specified significance level, there was a statistically significant difference in drug use between students in day girls', day boys', day co-educational, boarding boys' and boarding girls' schools in the sample (Hypotheses 4). The relatively high prevalence of drug use among subjects in day boys' schools was attributed to the joint effects of the general male tendency to drift to drugs, and the ease with which the average day-scholar was able to procure drug supplies. The difference in drug use levels between male and female day-scholars (Table 4.5) could have results from the maintenance of double standards in home disciplinary systems. An example to illustrate this would be in a hypothetical situation where, at home the boys in day school are not placed under as strict disciplinary control as the girls.

This would leave to a relatively higher prevalence of drug use among the boys in such a home. The same argument could also be
used to explain why the female subjects in day school tended to indulge in drug use at a lower level than their boarding counterparts. In the latter situation, it was possible that female subjects were subjected to strict disciplinary control while at home, relative to school.

A significant difference was found, in drug use, between subjects in maintained, unmaintained and private secondary schools in the sample (Hypothesis 5). The research data (Table 4.6) revealed the existence of a relatively high prevalence of drug use in private schools. This was expected because such schools are often established and operated as business entities, hence, little attention is given to proper staffing, motivation and discipline among the school community, geographical location of school, and so on. Further, it was acknowledged that most of the subjects in such schools are often former discipline cases in other schools, hence, they were expected to be more vulnerable to drug addiction than subjects in other school categories.

5.1.3 **THE RELATIONSHIP BETWEEN THE SEX OF DRUG USER, AND THE PATTERN OF DRUG USE (HYPOTHESIS 6)**

There was no significant difference between the male and female subjects who had used drugs at least once, and those who continued using drugs as a regular habit. The main reason for this conclusion was the fact that the majority of drug experimenters eventually become casual
and regular users, a conclusion which was also drawn by Kramer (1975). This implied that drug dependence was almost certain among male and female subjects, after the initial experimental contact with the specified psycho-active substances identified in this study.

5.1.4 INVESTIGATION OF THE ROLE OF FRIENDS AND PARENTS AS MODELS IN DRUG USE (HYPOTHESIS 7 AND 8)

There was no significant difference between the number of drug users whose parents used drugs, and that of drug users whose parents did not indulge in drug abuse (Hypothesis 7). This was rather unexpected because parents have for long been considered as one of the major behaviour models for their children. Hence, it would be logical to expect young people to imitate the habits of parents, even when such habits are not socially acceptable. In this study, the majority of subjects on drugs revealed that their parents did not indulge in any form of drug abuse. Thus, there existed a negative correlation between the parents' and childrens' use of drugs.

This therefore implies that parents should not be considered as one of the major behaviour models for the youth, especially in relation to drug use habits. However, other studies showed a positive correlation between parents' and childrens' use of drugs, for example McKennel and Thomas (1967), Kandel (1973), and Baumann (1973).
No significant difference was found between the number of drug users whose friends used drugs, and that of drug users whose friends did not indulge in drug abuse (Hypothesis 8). From the data in Table 4.9, there existed a positive correlation between friends' and the individuals' use of drugs. This implied that friends should be seen as one of the major behaviour models for the youth, especially in relation to drug use, an argument which was reinforced by research findings in: Marin (1974), Kandel (1973), Handon (1967) and McKennel (1967).

5.1.5 THE RELATIONSHIP BETWEEN THE TYPE OF DRUG USED, AND THE TYPE OF SCHOOL TO WHICH THE USER BELONGED

HYPOTHESIS 9, 10 AND 11

There was no significant difference between the types of drugs used by subjects in the government maintained, privately maintained and unmaintained secondary schools in the sample (Hypothesis 9). This outcome was unexpected.

The alternative hypothesis was that the specified drugs (Table 4.10) would have been in use at different levels in the various school strata, as a result of the imperfect distribution of drug channels. This illustrated in the comparison of subjects in day and boarding schools, in their relative levels of access of alcohol.
A significant difference was found between the types of drugs used by subjects in day boys', day girls', day co-educational, boarding boys' and boarding girls' secondary schools (Hypothesis 10). The outcome of the hypothesis testing was expected because subjects in school categories like day boys' and day girls' were generally more accessible to drugs than their counterparts in boarding school. Furthermore, the general tendency to males to 'drift' towards drugs precluded the use of similar drugs. Hence, because of these differences in the ability of subjects to procure drugs, it was inevitable that there would be difference in the types of drugs consumed by subjects in the specified school categories (Table 4.11).

No significant difference was found between the types of drugs used by male and female subjects in the sample (Hypothesis 11). This conclusion was rather unexpected because it had originally been anticipated that some of the drug types would be favoured by male, and others by female subjects. For example, it was hardly expected that the latter would indulge in petrol and glue-sniffing, but the research data revealed the active participation of such subjects in the use of volatile solvents (Table 4.12).

The results of hypothesis testing therefore indicated that the male and female subjects in the sample were equally liable to use the already identified drugs. Hence, there was no sex-specific drug among those studied. In spite of the existence of different motivating factors in drug use among
male and females (see Section 5.1.1), the subjects were equally vulnerable to different drug types.

5.1.6 THE ROLE OF DISCIPLINARY SYSTEMS AND HOME BACKGROUND IN DRUG USE (HYPOTHESES 12 & 13)

There was no significant difference between the number of drug users living with parents, close relatives, or accommodated in school (Hypothesis 12). It had been expected that the number of drug users living with close relatives would be significantly greater than that of those living with parents or accommodated in school. The rationale behind this view was that close relatives were generally thought to maintain minimal disciplinary control over youths living with them. Such youths would then have been more prone to deviant behaviour than those under strict control in their parents' home. From the data in Table 4.13, it was deduced that the relatively high incidence of drug use among subjects living with their parents was an indication that the individual was consciously or unconsciously reacting against parental authority, a view which was also implied by Pittel (1973), where he saw drug use among the youth as a form of defence mechanism.

Likewise, the relatively mild incidence of drug use among boarders could possibly have been the result of momentary freedom from strict parental control, leading to drug use as one of the possible deviant behaviours.
Finally, the relatively low incidence of drug use among subjects living with close relatives could have resulted from the individuals' taking advantage of the weak disciplinary structure existing at home. In general, it was generalized that the schooling youth was equally prone to drug addiction irrespective of his home background.

There was no significant difference in drug use between male and female subjects living in homes with autocratic, democratic and laissez-faire disciplinary systems (Hypothesis 13). This conclusion was unexpected because it had been anticipated that homes where discipline was lax would enhance the susceptibility of youths to drug use and other deviant behaviour, than homes with strict disciplinary control.

From the results of hypotheses testing, it was deducted that the male and female subjects were equally susceptible to drug use irrespective of the type of disciplinary system prevailing at home. However, the research data (Table 4.14) revealed a positive correlation between the level of disciplinary control and the individual's tendency to use drugs.
5.2 INTEGRATED GENERAL CONCLUSIONS FROM RESEARCH FINDINGS

In the study of the relationship between sex and age in drug use, the relatively high male prevalence in drug use was attributed to the characteristic male susceptibility to curiosity, hence the 'drifting' effect. However, the majority of female drug users tended to be in the age range 14 - 16 (Table 4.2). It was concluded that female subjects in this age range used drugs as a result of the stresses and crises associated with the onset of adolescence.

The investigation of the relationship between school categories, the age and sex in drug use revealed that:

i) Day scholars were more prevalent in drug use as a result of closer contact with peddlers, pushers, and other drug sources, than the boarder (Hypothesis 2).

ii) The relatively high male prevalence of drug use in boys' schools was, as in hypothesis 1, mainly due to the general male tendency to drift to drugs without specific reason for doing so (Hypothesis 3).

iii) The relatively high drug prevalence among students in day boys' schools was the result of compound factors like the general male tendency to drift to drugs, and the closer contact between the potential drug user and the drug sources (Hypothesis 4).

iv) Private school students conspicuously indulged in drug use as a result of the lax disciplinary system existing in such schools (Hypothesis 5).
The investigation of the relationship between the sex of drug user and the pattern of drug use (Hypothesis 6), revealed that the majority of drug experimenters eventually became either intermittent or regular drug users. Male and female subjects were equally prone to each drug use pattern.

In the study of the relative roles played by parents and friends as models in drug use (Hypothesis 7 and 8), it was concluded that the latter played the more significant role. This was inferred from the negative correlation which existed between parents' and siblings' use of drugs; and the positive correlation which was found between friends' and the individual's use of drugs.

The study of the relationship between the type of drug used, and the school category to which the user belonged, revealed that:

i) Drug use patterns were not significantly different between subjects in maintained, private and unmaintained schools. Hence, irrespective of school category, subjects could easily acquire the desired drug (Hypothesis 9).

ii) The types of drugs used by the subjects in the sample were not evenly distributed in the specified school categories, hence, some drug types were more readily available in some school categories, relative to others (Hypothesis 10).

iii) There was no sex-specific drug among the seven types whose consumption patterns were studied. This meant that both sexes were equally susceptible to different types of drugs (Hypothesis 11).
In the investigation of the role of disciplinary systems and home background in drug use, it was concluded that male and female subjects were equally prone to drug addiction, irrespective of their home background (Hypothesis 12), the sex of potential drug user, and the type of disciplinary system prevailing at home (Hypothesis 13).

5.3 IMPLICATION AND RECOMMENDATIONS FOR THE STUDY

Several of the findings in this study were noted for their legal, social, educational, cultural and economic implications. The practical implications which follow were generally derived from the discussion of results in Section 5.1.

5.3.1 EDUCATIONAL IMPLICATIONS TO THE REINFORCEMENT OF SCHOOL GUIDANCE AND COUNSELLING PROGRAMMES AND PREVENTIVE DRUG EDUCATION

After careful examination of the results of this study, it was acknowledged that our school system was on the onset of serious drug problems, as the results of hypothesis testing (Chapter 4) had revealed that male and female students in secondary school were extremely susceptible to drug use. From the data in Table 4.2, it was deduced that most drug experimentation begin with adolescence, and observation which was also made by Mwakwere (1977), Nyambe (1979), and Mueke (1980).
Of late, there has been a growing concern over the issue of drug abuse in our educational system, a concern not without grounds for research has already shown that drug use, and consequently, drug addiction had permeated through the school system with no school strata being immune from these problems. Drug problems have already been found to be manifested in the general decline in educational standards, morals and health (Ochieng' 1986). In view of the above observations, it was implied that efforts should be made to modify the role being played by the current school guidance and counselling programmes. Such programmes are currently biased towards educational and career guidance. School guidance and counselling programmes should therefore adopt an added informative role in relation to drug problems among the youth. Another educational implication of the results of this study was that preventive drug education should be established as a complementary programme to school counselling programmes. The subject matter of prevention programmes should be integrated into the existing curriculum. Both preventive education and school counselling programmes should ensure that their preventive strategies take into account the unique characteristics of the various school categories through subsequent studies of drug use indicators in each target group. Hence, where applicable, priorities should be followed so that the target groups with more severe problems are given the necessary attention first, for example, students in private schools, and all day-scholars.
5.3.2 SOCIAL IMPLICATIONS TO THE PRESCRIPTION OF SOCIAL ACTION

It was found that the school-going youths who used drug in this study belonged to all socio-economic classes, which portrayed the widespread use of drugs not only in the educational system, but also in the society in general. This observation was arrived at from the generalization of the samples' results to the society. Thus, 10 percent of the youths in the society were assumed to be involved in intermittent and regular drug use, which was imputed to the decreasing social attachment between the youth and the society. The modern youthful drug user was seen as indulging in drug use as a way of expressing independence, non-conformity, or even hostility. Similar observations were made by Oppenheim (1973) and Cancrini (1973).

A significant result in this study was that friends were found to play a relatively bigger role than parents as models in drug use. In the relationship between the type of disciplinary system maintained at home, and the subjects' susceptibility to drug use, it was found that the subjects were equally liable to express independence and hostility through drug use, irrespective of the type of disciplinary system in existence.

In respect to the above observations, it was implied that the respective roles play by parents and friends as models in drug use should be taken into account in the
development of measure to eradicate drug use in the society. It was recommended that in social action against drug use, the problem of drug use should be viewed within the framework of the substance, the individual, and the context of drug use (Nowlis, 1975). In such a view, the psycho, social, cultural and medical aspects of drug use should be taken into account. Within this framework, drug use and addiction among the youth should be regarded as social behaviour resulting from the maladjustment of the individual, a problem which can be solved through strategies such as those of social sciences. In essence, drug use among male and female subjects could only be curbed after the above framework has been studied. It is further recommended that an overall approach to the problem of drug use should be adopted, with drug use among the youth being situated to other social problems, and within the general framework of our country's long-term national objectives. Measures aimed at curbing drug use among the youth should be directed towards primary prevention, making rational use of the available human and financial resources, and especially ensuring the involvement of every social institution, since drug use is a social problem. Finally, it is recommended that educators, parents and the society should aim at helping form the personality of youth people. The idea is to help equip the youth to solve their problems without resorting to drugs, and hence preserve health at personal and social levels.
5.3.3 CULTURAL IMPLICATIONS TO THE PRESCRIPTION
OF REMEDIAL ACTION

In the past, only a very small proportion of those who used drugs for recreational or other purposes became dependent on them, relative to current trends. The range of psycho-active substances was not as large as it is today, and usually, one type of drug became the local drug of choice. While the use of mind-altering drugs was limited to persons who had attained the age of responsibility within their communities, youths are increasingly becoming a prominent feature in multiple drug use (Pann, 1975). The current study had several implications in respect to the above observations: firstly, drug use was not necessarily confined to the present generation of adolescents, but was widespread among the individuals on the onset of adulthood. Secondly, multiple drug use was found, where the individual was involved in the sequential substitution of one drug for another when the preferred drug was unavailable, or when two or more drug types were used to enhance, complement, or moderate the effect of one drug or the other. It was therefore recommended that strategies should be developed to reverse the current drug use patterns and trends among the youth, who currently account for over 50 percent of Kenya's population. Likewise, the social institutions should cease endorsing drug use, or showing indifference and tolerance to drug use by the youth.
5.3.4 **LEGAL AND MEDICAL IMPLICATIONS TO THE ENFORCEMENT OF LEGISLATION, DIRECT SOCIAL AND ECONOMIC CONTROL, AND ESTABLISHMENT OF REHABILITATION CENTRES**

The results of this study revealed that the majority of drug experiments among the youth eventually became regular or intermittent users. It was therefore implied that this was no longer a case of prevention, but for direct intervention. Hence, the following direct measures were recommended:-

i) **Legislation:** where the relevant laws relating to drug use are strengthened in order to control cultivation, extraction, manufacture, distribution and prescription of dangerous drugs. Such controls include: The Dangerous Drug Act (Caption 245 of the Laws of Kenya); The Pharmacy and Poisons Act (Caption 244 of the Laws of Kenya); and the ceased Miraa Prohibition Ordinance of 1962 (Caption 339 of the Laws of Kenya).

ii) **Direct Social control:** which involves the restriction of legal and illegal drugs in public places. In Kenya, smoking in public places is restricted, while alcoholic beverages may only be consumed in designated places. Social control could be strengthened through reinforcement with legal control, as illustrated in the cancellation of all Off-Licence Liquor Trading Licences in Kenya.
iii) Economic Control: where prices of legal drugs are adjusted in order to effect changes in the amount consumed. The application of economic control would involve raising the prices of legal drugs, thereby making them more expensive to acquire. The advantages of such action would be, firstly, keeping legal drugs away from most potential users, and secondly, earning the government extra revenue. Parents could exercise economic control at domestic level by making sure that their children did not keep large sums of idle money at their disposal.

iv) Rehabilitation: where the government through local authorities could establish drug-withdrawal clinics.

5.4 RECOMMENDATION FOR FURTHER RESEARCH

i) THE SOCIOLOGICAL AND CULTURAL DIMENSIONS OF DRUG ABUSE

It is recommended that the sociological and cultural aspects of legal drugs (bhang, miraa and alcohol), should be investigated in a scientific context, so as to enable researchers to understand better the psychological aspects of the same drugs.

ii) EVALUATION OF SCHOOL GUIDANCE AND COUNSELLING PROGRAMMES

The existing school guidance and counselling programmes should be evaluated so as to determine whether such programmes could be successfully modified to complement drug education in the school system.
iii) THE ASSESSMENT OF YOUTH-GROUPS AS AGENCIES OF PROBLEM-SOLVING

In view of the success of youthgroups elsewhere, as agencies for encouraging the youths to solve their problems in a socially acceptable manner, it is recommended that a feasibility study be carried out in Kenya.

iv) REPLICAION OF THE CURRENT STUDY

The current study was done in Nairobi area, involving subjects drawn from various categories of secondary schools. It is recommended that several parallel studies be done in other urban centres so as to allow for a more realistic generalization of results.
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Ding, L. K. The role of sex in narcotic addiction in Hong Kong. Asian Journal of Medicine, 1972, 8(3), 119-121.


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APPENDIX A

QUESTIONNAIRE FOR FORM FOUR STUDENTS

This questionnaire has been designed to find out your opinion about drug use in secondary schools, and the need for preventive drug education.

Your frank answer will be of utmost importance since your individual view be taken into account in establishing the extent of drug use in secondary schools, and as well as in devising practicable preventive education measures. The same information will be synthesized and hence used as a basis for recommendations to educational planners and others who care about your future.

Instructions

A. Please do not write your name in this questionnaire.

B. The information you will supply will be treated as confidential and known only to the researcher and you. Nothing you will indicate may be used against you.

C. Indicate your choices by use of tick (✓) where applicable. Detailed answers may be required to some questions, hence act accordingly.

D. Should you find several answers applicable, please select the best and tick appropriately.

E. Please answer all questions.

NB: In this questionnaire, drugs are taken as any substances which maybe chemical or natural; which may be inhaled, drunk, rubbed on etc; and which result in changes in the body functions.
Therefore, drugs will include: alcohol, tobacco, miraa, prescriptionless medical preparations, heroin, marijuana, etc.

BACKGROUND INFORMATION

1. What is your age and sex? Please indicate in the space provided:
   
   YEARS
   
   Age
   | ___ |

   Sex
   | MALE | FEMALE
   | ___ | ___ |

2. What type of school are you in? Please indicate in the space provided:
   
   DAY    DAY    DAY-CO-
   BOYS   GIRLS  EDUCATIONAL
   |      |      |      |

   BOARDING  BOARDING
   BOYS   GIRLS
   |      |      |

ATTITUDE TOWARDS DRUGS

3. Have you ever used any drug?

   YES | ___ |

   NO  | ___ |

4. What were they? Please indicate in the space provided:
   
   a) .................
   b) .................
   c) .................
   d) .................
   e) .................
   f) .................

5. Are you still using drugs?

   YES | ___ |

   NO  | ___ |

6. If you are still using drugs specify the length of time you have been doing so:

   a) Less than a year
   | a | ___ |
   b) More than one year but less than 2 years
   | b | ___ |
   c) More than 2 years
   | c | ___ |
7. What made you start using drugs?
   i) Treatment at home
   ii) Too much money at my disposal
   iii) Influence at home and on school
   iv) Curiosity
   v) Others (specify below)

8. Is this the reasons why you still use drugs?
   YES [ ]
   NO [ ]

9. Do you ever wish you had not started on drugs?
   YES [ ]
   NO [ ]

10. Have you ever tried to stop the habit?
    YES [ ]
    NO [ ]

11. Name the drug you use most often and indicate below, how often you use this drug.
    Name of drug: ________________________________
    Rate of Usage:
    i) Less than 3 times a day
    ii) More than 3 times a day but less than 6
    iii) More than 6 times a day
    iv) Others (specify below)

12. How much do you spend on drugs per week?
    i) Less than 50 shillings a week
    ii) Between 50 and 100 shillings a week
    iii) More than 100 shillings per week

13. Do some of your friends use drugs?
    YES [ ]
    NOT SURE [ ]
    NO [ ]

14. Name some of the drugs your friends use:
    a) ____________ b) ____________ c) ____________ d) ____________
15. Do you feel unhappy because they use drugs?

YES [_____]  
I AM INDIFFERENT [_____]  
NO [_____]  

16. Do your friends have any intention of abandoning drug taking?

YES [_____]  
NO [_____]  

17. Do your parents take drugs?

YES [_____]  
NO [_____]  

18. If you use drugs, do your parents know that you use drugs?

YES [_____]  
NO [_____]  

19. If they do know, do they approve of your use of drugs?

YES [_____]  
NO [_____]  

20. Do you have friends who do not use drugs?

YES [_____]  
NO [_____]  

21. Do you wish they used drugs too?

YES [_____]  
I AM INDIFFERENT [_____]  
NO [_____]  

22. Have you ever lost friends due to your use of drugs?

YES [_____]  
NO [_____]  

23. Would you like to see illegal drugs like bhang, heroin, etc. declared legal?

YES, ALL [_____]  
SOME (THE ONES I USE) [_____]  
NONE AT ALL [_____]  

24. The general impression that drugs are misused in our society is:

CORRECT [_____]  
DOUBTFUL [_____]  
INCORRECT [_____]
25. Indulgence in drug taking is damaging to the social, economic and educational performance of students in secondary school:

I DO STRONGLY AGREE [_____]
I AGREE [_____]
MAY BE [_____]
I DO NOT AGREE [_____]

26. If you go to a day secondary school, with whom do you live?

a) FATHER AND MOTHER [_____]
b) MOTHER OR FATHER [_____]
c) SINGLE BROTHER OR SISTER [_____]
d) MARRIED BROTHER OR SISTER [_____]
e) CLOSE RELATIVE(S) (SPECIFY BELOW) [_____]

27. If you live with close relatives, to what extent are they responsible for your behaviour (including smoking habits, etc.)?

a) THE MAINTAIN STRICT CONTROL OVER ME [_____]
b) THEY HAVE MINIMAL CONTROL OVER ME [_____]
c) THEY HAVE NO CONTROL OVER ME AT ALL [_____]

28. In your school, what is the most common type of indiscipline that pupils are sent away for? If more than one, write them in order of severity.

a) ____________________________ [_____]
b) ____________________________ [_____]
c) ____________________________ [_____]
d) ____________________________ [_____]

29. From your own experience, at which level are students most prone to drug experimentation?

a) LATE PRIMARY LEVEL STD.(6 - 8) [_____]
b) LOWER SECONDARY LEVEL (FORM 1 - 2) [_____]
c) HIGHER SECONDARY LEVEL (FORM 3 - 4) [_____]
30. List the advantages and disadvantages of drug taking behaviour. (use the space below)

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
<td>5.</td>
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<td>6.</td>
<td>6.</td>
</tr>
</tbody>
</table>

ATTITUDE TOWARDS PREVENTIVE DRUG EDUCATION

31. Which of the following preventive measures would you recommend as a strategy for controlling drug taking among the youth? Rank them by placing 1, 2, 3, etc. in the space provided:

   i) Strict law enforcement measures
   ii) Self denial among the youth
   iii) Drug information and Education
   iv) Religious persuasion
   v) Others (specify below)

32. Have you or your friends ever been exposed to any preventive method?

   YES | [ ]
   NO  | [ ]

33. If you have ever been exposed to a preventive method, do you think it was successful in your opinion?

   YES | [ ]
   NO  | [ ]
   UNDECIDED | [ ]

34. If you are no longer on drugs, what methods did you employ to help stop the habit? List them below:

   a) 
   b) 
   c) 
   d) 
35. Do you think the average secondary school is giving enough preparation to the student by way of ensuring positive mental health?

a) Very good preparation
b) Good preparation
c) Poor preparation
d) Very poor preparation

36. Do you think it is necessary to fight drug taking prevention rather than cure?

YES
NO
APPENDIX B

QUESTIONNAIRE FOR CLASS AND HEAD-TEACHERS

Drug abuse has become an international phenomenon. Our country is no exception. We are trying to investigate the magnitude of this problem in the context of the Nairobi secondary school. Your clear and honest answers to the questions that follow will be a great help towards the desired goal.

Your identity is not required and your answers will in no way be used against you. Please answer all questions as required.

INSTRUCTIONS

A. Indicate your choices by ticks (✓) where applicable.
B. Should you find several answers applicable, the best answer shall be taken as the most appropriate.
C. Some questions will require a detailed answer due to their open-ended nature. Please act accordingly.
D. There is a special section for Head-teachers to fill in.

NB: For purposes of this study, drugs are taken as any substances which may be chemical or natural; which may be inhaled, drunk, rubbed on etc; and which result in changes in the body functions. Drugs will therefore include: alcoholic beverages, tobacco, miraa, prescriptionless medical preparations, heroin, and marijuana.
BACKGROUND INFORMATION TO BE COMPLETED BY CLASS AND HEAD-TEACHERS

1. NAME OF SCHOOL: Please indicate this in the space provided

2. TYPE OF SCHOOL: Tick in the appropriate box

<table>
<thead>
<tr>
<th></th>
<th>DAY BOYS</th>
<th></th>
<th>DAY GIRLS</th>
<th></th>
<th>DAY CO-EDUCATIONAL</th>
<th></th>
<th>BOARDING BOYS</th>
<th></th>
<th>BOARDING GIRLS</th>
<th></th>
</tr>
</thead>
</table>

3. Indicate your age and sex below:

Age: ____________________ YEARS

Sex: MALE | ____________________ FEMALE | ____________________

4. Indicate clearly your professional and academic qualifications, by ticking in the Tables A and B below:

<table>
<thead>
<tr>
<th>TABLE A</th>
<th>TABLE B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Qualifications</td>
<td>Academic Qualifications</td>
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<tr>
<td>PI</td>
<td></td>
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<tr>
<td>SI</td>
<td></td>
</tr>
<tr>
<td>Graduate (B.ED.)</td>
<td></td>
</tr>
<tr>
<td>Masters (M.A., M.SC., M.Ed.)</td>
<td></td>
</tr>
</tbody>
</table>

5. a) For how many years have you taught since you qualified to teach?

__________________________________________________________

b) Have you had any experience in dealing with drug cases especially in a school situation?

YES | __________ |
NO  | __________ |
ATTITUDE TOWARDS THE DRUG PROBLEM
(to be completed by both Class and Head-Teachers

6. Are there any cases of drug taking in your school?
Please be very frank.

- Very many
- A few
- None
- Not sure

7. If your school is co-educational, what is the general
distribution of known drug users in terms of sexes?

a) Boys are the main abusers of drugs
b) Both sexes are evenly matched in drug abuse
c) Girls are the main abusers of drugs
d) Others (specify below)

8. What are the approximate age groups of the known drug users in
your institution?

- Less than 15 years old
- 16 - 20 years old
- 21 - 25 years old

9. Where do the majority of known drug users come from?

- Rural areas
- Urban areas
- Peri-urban areas
- Others (specify below)

10. What drugs do the known drug takers take? Rank them from the
most frequently used to least frequently used. At the same time
indicate the possible sources of the drug in question?

<table>
<thead>
<tr>
<th>NAME OF DRUG</th>
<th>SOURCE OF DRUG</th>
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<tbody>
<tr>
<td>a)</td>
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<td>g)</td>
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</tbody>
</table>
11. In case of drug taking by students, which of the following measures does your school normally take? (If all these measures apply in your school, give them a hierarchical order by marking in the boxes (1 - 5).

   a) Warnings  
   b) Expulsion after several warning  
   c) Requesting parental opinion/explanation  
   d) Giving out corporal punishments  
   e) Others (specify below)  

12. From your own experience, which social-economic class produces most school drug takers?

   The most affluent (upper)  
   The class of medium affluence  
   The class of relative poverty (lower)  

13. The impression that drug taking is prevalent in our school is:

   Correct  
   Doubtful  
   Incorrect  

14. Drug taking in our schools is on the increase. This is:

   Correct and worrying  
   Correct but causes no worry  
   Incorrect  

15. Indulgence in drug abuse is damaging to the performance of students. Which of the following statements best gives your opinion?

   I strongly agree  
   I agree  
   May be  
   I am indifferent  
   I do not agree  

16. Drug taking is acquired as follows:

   From friends  
   From one's family  
   Others (specify below)
17. The reason why school children get used to drugs is as follows:

- Poor treatment at home
- Bad company at school and/or home
- Demonstration effect of peers

18. How can we eradicate the drug problem in our schools?

- By neglecting it
- By strict legal measures
- Through education on dangers of drug use

ATTITUDE TOWARDS DRUG EDUCATION

19. Do you offer any form of drug education or even related information to your students?

- YES
- NO

20. If yes, give details of the programme below:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

21. What constraints have you encountered in implementing this programme?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

22. Do you think there is an urgent need for starting a nationwide programme on drug education?

- YES
- NO
23. What is your overall assessment of drug use and abuse in the society?

- It has not yet reached an alarming stage
- It is necessary to act now to save the society's mental health
- Others (specify)

24. If drug education is a feasible measure, should it be imparted as a preventive measure or as a curative one?

- PREVENTIVE
- CURATIVE

25. Should drug education be part of curriculum or should it be based on the same lines as Guidance and Counselling in schools?

- YES, AS PART OF THE CURRICULUM
- NO, SEPARATE

26. What is your overall view on drug education?

- It is urgently needed
- It is feasible but not urgently needed
- I am indifferent
- It is not feasible right now
- Others (specify below)

SCOPE AND METHOD OF DRUG EDUCATION: THIS SECTION IS FOR HEAD-TEACHERS

27. Have you started drug education in your school? If yes, please provide the following information in the space provided.

a) State its objectives
b) Identify educational materials which have been utilized
c) How is this programme organized i.e. is it part of the curriculum or detached as a separate programme?
d) What target group is it addressed to? i.e. Is it for potential drugs cases or for all students?
28. What difficulties do you think could be encountered in establishing drug education as an integral part of the formal curriculum in our schools?

29. If you have not started a programme on drug education, would you like to start one? Give reasons for your answer?

30. Do you believe that the future of our civilization will be affected if drug misuse and abuse spread?

   In a way, it has already been affected
   Yes, it is possible
   I think so
   I do not believe that civilization can be affected at all

31. What is your view in terms of help from the Ministry of Education, Science and Technology in enhancing drug education? Do you think the Ministry should be more helpful?
APPENDIX C

TESTING OF HYPOTHESES USING THE CHI-SQUARE METHOD

The chi-square technique of hypothesis testing was considered applicable when it was desired to find out whether the frequencies observed in the sample deviated significantly from the theoretical or expected frequencies.

THE BASIC FORMULA

\[ \chi^2 = \sum_{i=1}^{k} \frac{(o_i - e_i)^2}{e_i} \]

where:
- \( k \) = number of cells in a contingency table
- \( o_i \) = Observed frequencies
- \( e_i \) = Expected frequencies
- \( \chi^2 \) = Computed chi-square value

THE YATES' CORRECTION FOR CONTINUITY

\[ \chi^2 = \sum_{i=1}^{k} \frac{|o_i - e_i| - 0.5}{e_i} \]

where: \(|o_i - e_i| - 0.5\), indicates that the absolute size of the deviation should be reduced by 0.5

- \( k, o_i, e_i, \chi^2 \) are as in the basic formula

Application

The correction for continuity was applied when:

i) \( \chi^2 \) was based on one degree of freedom

ii) The expected cell frequency was less than 10

iii) \( \chi^2 \) was found to be on the borderline of significance.
DEGREES OF FREEDOM (TWO-WAY FORMAT)

\[(R-1)(C-1) = \text{d.f.}\]

where:
1. \((r - 1)\) = number of rows in a contingency table, minus one
2. \((c - 1)\) = number of columns in a contingency table, minus one
3. \(\text{d.f.}\) = degrees of freedom

COMPUTATION OF EXPECTED FREQUENCIES (TWO WAY FORMAT)

\[e_{ij} = \frac{(r_i \times c_j)}{t}\]

where:
1. \(e_{ij}\) = expected cell frequency
2. \(r_i\) = corresponding row total
3. \(c_j\) = corresponding column total
4. \(t\) = grand total of all frequencies

ACCEPTANCE AND REJECTION OF NULL HYPOTHESES

i) When the value of chi-square at a specific level of significance as given in chi-square tables \((\chi^2_\alpha)\) was found to be greater than the computed chi-square value \((\chi^2_c)\), the null hypothesis was accepted.

ii) If \(\chi^2_c\) was found to be greater than \(\chi^2_\alpha\), the null hypothesis was rejected.