

**THE NEXUS BETWEEN DEVIANT BEHAVIOR AMONG STUDENTS AND
RECURRENT FIRE DISASTERS IN PUBLIC SECONDARY SCHOOLS
WITHIN BUNGOMA COUNTY, KENYA**

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DECLARATION AND APPROVAL

DECLARATION

This thesis is my original work prepared with no other than the indicated sources and support, and has not been presented elsewhere for a degree or any other award.

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APPROVAL

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ABSTRACT

Fire disaster has become a global prevalent disaster experienced in most public and private secondary schools and other learning institutions with likely no country is exempted from this disaster whether developed or developing. The frequent fire incidences in schools within Bungoma County are therefore major concern for all education stakeholders especially considering that some element of rogue behavior and incitement among students have been pinpointed as major causal factors for these problems. The overall objective of the study was to examine the nexus between deviant behavior and recurrent fire disasters in public secondary schools within Bungoma County, Kenya. The specific objectives were: to examine the nature and extent of deviant behavior among students in schools within Bungoma county, Kenya; to evaluate causes of the recurrent fire disasters in schools within Bungoma county, Kenya; assess the strategies in use to mitigate fire Disasters in Schools within Bungoma county, Kenya. The Study adopted Bronfenbrenner's ecological systems theory and PAR Model. The study adopted a descriptive research design and a total respondents of 384. The target population were MOE quality assurance and standard officer, fire officer, BOM chair, PTA chair, deputy principals, spiritual leaders, head prefects, scouts and community members. SPSS version25 was used for data entry. The data were presented in descriptive form through frequencies and percentages in graphs, tables and charts. Qualitative data were analyzed thematically. The study found that there are high cases of deviant behaviors among students led by theft of property (95.6%) followed by drug and substance (64.8%). The study further found that peer pressure (83.3%) and drug and substance abuse (53.6%) were the main factors leading students to burn schools. The findings further revealed that adequate fire fighting equipment (86.2%) as best strategy and evacuation plans as the least (19%). The study concluded that most of the schools have experienced forms of deviant behavior among students such as peer pressure and drug and substance abuse which have led to recurrent fire disasters in schools. The study further concludes that most schools are not well prepared for fire emergencies since they are not trained on how to handle fire emergencies. The study recommends that in partnership with the National government, county government of Bungoma should develop policy legislation on emergency that will address issues such as deviance behaviors in schools and within the society. The study recommends that a deer need is required in place to revise a method of profiling, tracking and sharing information on cases of student indiscipline in all secondary schools in the Nation. The study further recommends that county government to put in place fire station in every sub county in readiness for any fire disasters and conducting fire drills, trainings and policy guidelines implementations.

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List of Abbreviations and Acronyms

ACF -Arson Control Forum

CIDP – County Integrated development Plan

FGDs-Focus Group Discussions

KNBS-Kenya National Bureau of Statistics

MOEST-Ministry of Education Science and Technology

NACOSTI-National Commission for Science and Technology

NFDC-National Fire Data Center

NOC -No Objection Certificate

SPSS- Statistical packages for Social scientists

Operationalization of Key Concepts

Deviant Behavior –Exhibiting conduct that deviates from socially acceptable norms

Fire Disaster- Destruction of property through flames caused by either intentional or accidental fire

Moral decadence- Moral decadence is the process of behaving in a way that shows low moral standards. It means gross reduction in the moral values in the society.

School fires- Fires that raze down school property causing widespread damage and interference with the school program

Students- Learners in Kenyan Secondary schools under the 8-4-4 Education system

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Fire disaster has become a global prevalent disaster experienced in most public and private secondary schools and other learning institutions with likely no country is exempted from this disaster whether developed or developing (Ilori, 2019). For many years, fire has consistently caused loss of lives, injuries and devastation of properties worldwide (Rubaratuka, 2013). Fire is the rapid oxidation that occurs if a material in the exothermic chemical process of combustion results in the emission of heat, light and various reactive products (Pyne, 1982; Wahab, 2015). According to Supermedia (2011), fires start in three main ways; misuse of appliances, deliberate ignition and equipment failure. Muraliand Vijayalakshmi (2014) stated that fire is a process of burning. It is a chemical reaction initiated in the presence of heat energy in which a substance combines with oxygen in the air to release energy in the form of heat, light and sound (Murali & Vijayalakshmi, 2014). Fire starts in different ways and can serve as a potentially destructive force in peoples' lives (Supermedia, 2011; Wahab, 2015). Fire normally takes place without any warning.

Fire disasters in schools is an old phenomenon that has affected schools in almost all parts of the world. In Sweden for example, almost every day one or two school fires occur. In most cases, arson is the cause of the fire and it accounts for more than 40% of the annual 400-500 fires in Swedish school buildings (schools and pre-schools). The costs of fires in school buildings are also disproportionately high compared to fires in buildings other than school buildings. According to statistics provided by insurance

companies the costs of fires in school buildings are up to 500 million SEK annually, amounting to more than 10 % of the total cost of fires in Sweden. Sweden is not the only Nordic country affected by incidents of recurrent fire disasters in schools. In fact, other countries including Denmark, Estonia, Finland, Iceland and Norway have had similar problems and this prompted the national fire authorities in these countries to come up with a data base for fire statistics as a way of establishing trends and looking for possible preventive measures for these fires.

Each year in the United States, an average of 5,500 structure fires occur in educational institutions whether, public, private, and parochial schools where students attend during the day only (NFIRS, 2002). These fires are responsible for approximately 125 injuries, fewer than 5 fatalities, and \$50.1 million in fire loss. Fires to the actual structure of educational institutions account for only 43% of fires to these properties. The remaining 57% occur outdoors and generally involve refuse or other items of little value (Moran, 2001).

A study conducted in the United States revealed that of fires in high schools, nearly 70% are arson fires, followed by electrical distribution and cooking. For fires in elementary schools, 42% are arson fires, followed by electrical distribution and heating. The higher percentage of arson fires in high schools may indicate that high school students are more likely to engage in suspicious fire setting activities than younger children. The number of children playing fires (7% of all fires) is troubling, as even under the watchful eye of

teachers and school staff, children are still able to access fire-starting materials such as generally matches and lighters (NFIRS, 2002).

In early November 2021, a fire incident in Niamey, capital city of Niger destroyed several classrooms and killed 25 school children and as a result all classes at the school have been suspended. While it is not uncommon for fires to occur in school outbuildings in Niger it is rare for one to result in so many deaths (BBC News, November 8, 2021).

One of the factors is arson which defined as a deliberate fire set by an individual or group of persons on private or public properties, mainly in a form of protest or vengeance against institutions or government (Kisurulia *et al.*, 2015). According to Tolofari (2010), some fire outbreaks are caused by some individuals with malicious intent to show displeasure or create destruction. Arson was a cause of secondary schools fires in Kenya, as an expression of dissatisfaction with the school administration (Shibutse *et.al*, 2014).

Post independence Kenya has experienced school violence some of which has had disastrous results such cases include the St Kizito tragedy, where male students invaded girls dormitories as a result, 19 girls died and 72 were raped, the Kyanguli secondary school fire in Machakos where several students died due to a fire started by colleague students. According to Institute for Security Studies (Institute for Security Studies, 2008) students' violence directed at school property mainly arson has been on the rise in Kenyan secondary schools. The most recent school violence being that of school fires in 2016 where more than 100 schools were burnt in a span of two months (Mabel, 2016).

Among Counties that have experienced alarming cases of fire incidences in schools is Bugoma County. In 2016 when there were rampant cases of schools having these rapid fire outbreaks several schools in Bungoma were affected. Among the affected schools included Chesamisi Boys, Khasoko Boys, St. Mary's Kibabii Boys, Kimaeti Boys, , Mabanga Girls, Chebosi Secondary School, Mitua Girls, Kimugui Boys, and Sikusi Secondary School. According to the Kenya Secondary School Heads Association Bungoma Chairman, Richard Sabwami, some students were incited by the community to cause chaos, hence ended up burning the institutions for instance, in the case of Sikusi Secondary School, the community made students become unruly due to lack of water at the institution, after which they burnt the school dormitory (The Standard, 20th September, 2016).

The most recent case of fire in Bungoma County occurred in 2021 and 2022 respectively. In march 2021, Khasoko Boys High School in Bumula constituency, Bungoma County was closed after dormintory was razed down. According to reports by Nation News paper (10th March, 2021), A student who did not want to be named said the fire might have been caused by some students who have been complaining about the schools' 'poor' management. In November 2022, A dormitory at Teremi Boys High School in Bungoma was destroyed by fire, the cause of the fire is suspected to be an electric fault, even so, further probe into it has been launched (NTV News at 7:00pm, 1st November 2022).

The frequent fire incidences in schools within Bungoma County are therefore major concern for all education stakeholders especially considering that some element of rogue behavior and incitement among students have been pinpointed as major causal factors for

these problems. This study sought to investigate the connection between deviance among students and school fires in Bungoma County.

1.2 Statement of the Problem

Deviance is behavior that violates social norms and arouses negative social reactions. The violation of norms can be categorized as two forms, formal deviance and informal deviance. Formal deviance can be described as a crime, which violates laws in a society. Informal deviance are minor violations that break unwritten rules of social life. Deviant acts can be assertions of individuality and identity. In recent times, deviant behavior, which could be described as behavior that is different from the norm, has become a daunting global problem. The problem is pronounced more among young people especially those of school going age. Each year, the number of pupils with deviant behavior (also known as aberrant behaviour) in general education schools steadily increases (Hayden, 2007; Damron-Bell, 2011).

According to Lapinski and Rimal (2005), human behavior may deviate either positively or negatively from socially acceptable norms. Negative deviance refer to deviant behavior is defined by unorthodox traits that do not conform to officially established generally accepted social norms. Deviant behavior by teenagers includes antisocial, delinquent, wrongful, aggressive, self-destructing, and suicidal acts (Hanimoglu, 2018). These acts may lead to various abnormalities in personal development. Often these deviations include children's reactions to the difficult life circumstances (Wolfe, Marcum, Higgins & Ricketts, 2014).The causes of deviant behavior are related to

conditions of upbringing, peculiarities of physical development and one's social environment (Berdibayeva, *et al.*, 2016).

Social decadence has been touted as of the reasons for rebelliousness among secondary school students which has in many cases led to torching of schools. Kenya's society is one that has skewed attitudes, "a don't-care attitude"; is a society that has lost morals among its youth, even adults. The students get supported in their ways by the very members of society, they purchase fuel to burn and get supplied with drugs by the very society (Cooper, 2014). This kind of attitude has made the young generation see the rogue behaviors including burning of schools as normal.

Among Counties that have experienced alarming cases of fire incidences in schools is Bugoma County. In 2016 when there were rampant cases of schools having these rapid fire outbreaks several schools in Bungoma were affected. Among the affected schools included Chesamisi Boys, Khasoko Boys, St. Mary's Kibabii Boys, Kimaeti Boys, , Mabanga Girls, Chebosi Secondary School, Mitua Girls, Kimugui Boys, Namwela secondary, Kimilili high, Milo Friends and Sikusi Secondary School. These incidences have caused untold suffering and unrepairable damage in schools. Whereas schools are expected to promote and enhance discipline, moral behaviors, in most instances, schools within Bungoma have experienced forms of deviant behaviors which has resulted in fire disasters. therefore, the impetus of this study was to interrogate the weaknesses institutional frameworks, and the link between deviance and school fires. It is on this basis that the study focused on the link between deviant as a major causal factor towards arson in school within Bungoma County.

1.3 Research Objectives

The overall objective of the study was to interrogate the nexus between deviant behavior and recurrent fire disasters in schools within Bungoma County, Kenya.

The specific objectives were:

- i. To examine the nature and extent of deviant behavior among students in schools within Bungoma county, Kenya
- ii. To evaluate causes of the recurrent fire disasters in schools within Bungoma county, Kenya
- iii. Establish strategies to mitigate Fire Disasters in Schools within Bungoma county, Kenya

1.4 Research Questions

- i. What is the nature and extent of deviant behavior among students in schools within Bungoma County, Kenya?
- ii. What are the causes of the recurrent fire disasters in schools within Bungoma County, Kenya?
- iii. Which are the strategies to mitigate Fire Disasters in Schools within Bungoma county, Kenya ?

1.5 Justification of the study

15.1 Academic Justification

Studies by Mugiti (2012), Gichuru (2013) and Mwangi (2009) indicate that schools are not yet prepared for fire disaster risk reduction. The three studies show that firefighting equipment are inadequate, head teachers, teachers and students are not trained on fire disaster risk reduction and some building policies have not been adhered to.

Another study was conducted by Kukali (2013) on the Implementation of Safety Policy in Girls' Boarding Secondary Schools in Bungoma East District, Kenya: Challenges and Strategies. Another study related to the current study was done by Misigo (2021) on the relationship between selected forms of bullying and psychosocial adjustment among secondary school students in Bungoma County, Kenya.

Cooper (2014) titled *Students, arson, and protest politics in Kenya: School fires as political action*. According to the findings, the incidences of fire in schools were caused majorly arson cases that were common in both public and private schools in Kenya. The findings further revealed that protest politics in Kenya had a great influence on the schools fires.

According to a study by Moywaywa (2022) titled *the phenomenon of School fires in Kenyan Public Secondary Schools : Blame-games, scape-goats and the real culprits*. He argues that the layout of school discipline systems and structures contribute to arson in schools and thus also requires some enhancement, necessarily by reinstating caning but by creating a conducive environment in schools for student behaviour management through self-regulatory learner-focused discipline enhancement programmes. The research paper further argues that due to the moral decadence of the society that the time has come when religious leaders should be involved in the moral and spiritual nurture of school-going youth in a more structured manner.

From the foregoing there has been a lot of research on fire disaster risk reduction. However, limited research has been conducted regarding fire disasters in schools specifically in relation to deviant behaviors. Therefore, the current study focused on the

connection between deviant behaviors and schools in Bungoma County, thus have contributed to the existing body of knowledge and laying ground for further research.

1.5.2 Policy Justification

The study findings are beneficial to education experts and policy makers on dealing with issues relating to students' unrest and arson in secondary schools. The study findings are therefore, helpful in the process of early detection of deviance, and averting unrests in secondary schools in Bungoma County as well as in other parts of Kenya. Over the years, Kenya has witnessed massive destruction of property because of student unrests. The unrest has caused the loss of student lives bringing grief and fear across the country about the safety of their children. Therefore, this study will inform the policy makers on important aspects of the management fire disasters.

1.6 Scope of the study

The study was conducted within the bounds of Bungoma County and all the respondents were from the county and not any other counties. The study interrogated the nexus between deviance and recurrent fire disasters in schools in Bungoma County. The study covered the period between 2001 to 2022. In 2001, Kenya experienced the Kyanguli Fire Tragedy which occurred on the night of 25 March 2001 when a dormitory at Kyanguli Secondary School in Machakos County, Kenya was set on fire in an act of arson by two 16-year-old students of the school, 67 people died in the incident. The study ended in 2022 as the year recent school fires have been witnessed within Bungoma. The study focused on selected public secondary schools both boys and girls. The actual study was conducted between April and May, 2023.

CHAPTER TWO : LITERATURE REVIEW

This chapter has reviewed relevant literature in regards to deviant behavior among secondary students and recurrent fire disasters, provided conceptual framework and summary of the chapter.

2.1 Nature And Extent Of Deviant Behavior Among Students In Schools

In recent times, deviant behavior, which could be described as behavior that is different from the norm, has become a daunting global problem. In general, the word "deviant" (from Latin *deviatio*) means an abnormality (Collinsdictionary.com). Each year, the number of pupils with deviant behavior (also known as aberrant behavior) in general education schools steadily increases (Hayden, 2007; Damron-Bell, 2011). Aberrant behavior may not only lead to problems that include peer-pressure, bullying, and violence right within a school setting, but to also more serious consequences such as social maladaptation and crime (Rodger, 2008; Furniss, 2000). The causes of aberrant behavior have not been completely determined to date. Therefore, this study set out to determine reasons for abnormal behavior exhibited high-school students, the impact of deviant behavior on the school setting, and the relationship between these behaviours and fire outbreaks in schools.

Social deviance has been investigated by numerous psychologists for over one century. Durkheim, Thomson, Vygotsky, Eisenstein amongst others, were the first scholars to address the issue (Goode, 2016). Social deviance inseparably mirrors socially-acceptable behavior (Vygotsky,1998). Social norms, can be interpreted as the limits or measures of

conduct permissible within a society that ensure a society functions as it is should, and, most importantly, social norms help to preserve societies (Aitchison, 2012).

According to Lapinski and Rimal (2005), human behavior may deviate either positively or negatively from socially acceptable norms. Positive deviance occurs when one's conduct does not harm anyone and appears as non-conformity. Negative deviance disorders established social systems and usually results in violence and crime. Positive deviance relates to creativity that brings positive changes to a society, whereas negative deviance is destructive and does not bring anything positive to a society whatsoever (Lapinski & Rimal, 2005; Steinberg & Morris, 2001). Deviant behavior is defined by unorthodox traits that do not conform to officially established generally accepted social norms.

Aberrant behavior causes negative evaluations e.g. crimes, to be committed by people. Deviant behavior has a destructive or self-destructive orientation characterized by persistence and repetition. Signs of deviant behavior include social exclusion and self-identification as deviant in terms of age and gender. It is very important to differentiate aberrant behavior (wrongful and immoral) from character traits like strangeness, eccentricity, eccentricities, available individuality, which are not harmful (Goode, 2016). Deviant behavior poses a real threat to the physical and social survival of an individual within certain social environments or collective settings.

Deviations are marked by violation of social norms, moral norms, cultural values, the process of assimilation, and in the reproduction of values and norms. It may stem from a single action by an individual that does not meet set out social norms. E.g. the criminalization of society, divorce, corruption of officials etc. The concepts of norm and

deviation are socially defined (Shaffer, 2009). In medicine, aberrant behavior relates to deviation from generally accepted norms that guide interpersonal interactions. Within the framework of mental health and frontier state, these actions, acts, statements describe forms of neuropsychiatric pathology (Goode, 2016). In psychology, deviant behavior is defined as a deviation from socio-psychological and moral norms (Goode, 2016). Deviations are characterized by violation of socially accepted norms that cause damage to individuals themselves, public welfare, and their surroundings.

Aberrant behavior can be regarded as a choice between socially acceptable and deviant ways of achieving set goals (Sherif, 2005). For example, when trying to get rich or attain success (as defined by oneself), one may choose unacceptable means e.g., bullying others or even engaging in criminal activities (Dwyer, 2016). Others may portray open disobedience, protest, reject widely accepted social values including moral and legal laws, and unite in participating in various criminal, terrorist or other extremist groups. Therefore, they choose to combat the society they live in rather than try to fit in (White, 2016).

In all these cases, the aberration results from a complete or relative failure of socialization i.e. the inability or reluctance of individuals to adjust to society and its requirements, Deviant behavior by teenagers includes antisocial, delinquent, wrongful, aggressive, self-destructing, and suicidal acts (Hanimoglu, 2018). These acts may lead to various abnormalities in personal development. Often these deviations include children's reactions to the difficult life circumstances (Wolfe, Marcum, Higgins & Ricketts, 2014). This condition often ranges from facets of disease to norm. Therefore, it should be evaluated by both a teacher and a doctor. The causes of deviant behavior are related to

conditions of upbringing, peculiarities of physical development and one's social environment. The teenager, evaluating his or her body, takes note of the norm, his physical superiority or inferiority, and comes to a conclusion about his or her social significance and value (Berdibayeva, Garber, Ivanov, Satybaldina, Smatovad & Yelubayeva, 2016).

A child may either have a passive attitude to his or her physical weakness, or a desire to compensate for deficiencies, or a willingness to eliminate them by physical exercise. Sometimes delays in the development of neuro-muscular function disrupts coordination of movements and manifests as clumsiness. Reproaches and slight comments by others concerning their appearance and awkwardness provoke violent affections and distort their behavior. Tall boys are confident in their strength and manhood and do not need to fight to earn the respect of their peers (Zotova, Prjazhnikov, Berezhnaja, Ermakov & Melamud, 2016). Thus they are more obedient, natural and need less attention. Thanks to their self-confidence, other children perceive tall boys as being very sensible. Skinny, developmentally-deficient, stunted boys are perceived by others as immature, small and unfit. Such boys need custodial supervision because they are rebellious. To change such unfavorable perceptions about themselves, they ought to show entrepreneurial ingenuity, courage, exemplary personal achievements and be constantly present in order to prove their usefulness and indispensability among their peer-groups (Zotova *et al.*, 2016). This activity provokes emotional tension and difficulties in communication, which are ideal conditions for violation of generally accepted standards.

Teenage deviant behavior often has social causes, for instance, disadvantages in education and upbringing. Delinquency shoots from the house in most cases. The very

first shoots of deviance are carried out due to fear of punishment, or as a protest, which then turns into a reflex-like stereotype (Denzin, 2010). The causes of the deviant and delinquent behavior in teenagers stem from lack of supervision, lack of attention from relatives, fear of punishment, dreaminess, the desire to eliminate the guardianship of caregivers or parents, ill-treatment by comrades, and in an unmotivated thrust to change the status quo. Vagrancy may also lead to delinquency.

On a separate note, early alcohol and drug abuse among teenagers is motivated by a desire to be in the company of adults, feel mature, to satisfy curiosity, or change the prevailing mental state. Following alcohol consumption, there is a cheerful mood, increase in self-confidence, and disinhibition (Berdibayeva et al., 2016). Group addiction that emerges when drinking with friends is likely to lead to alcoholism. As a rule of thumb, the initial and often only factor that promotes social adaptation of teenagers with deviant behavior is an external requirement by society to conduct themselves in such a way that they are in compliance with regulations and norms (Tankard & Paluck, 2016). However, this external requirement does not lead to positive emotional reactions (Van Zoonen, 2013). Thus, the teenager does not have an internal motivation for social adaptation.

The school's responsibility is to present this external requirement to deviant teenagers. Rubington and Weinberg (2015) however, believe that this is contradictory as the normative state fixes this responsibility with parents. Nevertheless, in practice, the basic role of educational facilities, i.e. schools, is to educate children and teenagers. In our opinion, this is due to the inability of the family to assume such a burden due to material difficulties, and a limited understanding of the developmental processes of teenagers, etc. (Gonen, Sharon, Pearlson & Hendler, 2014). By being in interaction with others as they

grow and learn, individuals either completely or partially accept, or absolutely deny life values promoted by educational facilities (Boxford, 2006). Positive social adaptation occurs when the life of the school's team is saturated and attractive, and creates opportunities for communication with peers and the desire for this communication (Hayden, 2007).

Children with abnormal behavior in society, in most cases, reside in families where either there is no second parent, or this social cell is dysfunctional, therefore, they need special assistance to coordinate their behavior. Such children cannot physically or psychologically cope with their problems (Wilson & Deane, 2010). Thibaut (2017), suggests that teenagers, in their essence, are extremely vulnerable and resentful. If a child lacks parental care and warmth, he or she chooses a protective reaction in the form of alienation (isolation, unsociability, coldness, neglect, emotional instability, etc.) Societal factors that manifest in the shortcomings of schools, the public or the family are also responsible for children's behaviour. It is not a secret that in unfavorable families, children (and not only children), are subjected to ill-treatment or violence at home, school, and outdoors (Jones, 2016). Ill-treatment is not always limited to the physical realm; it may also present as emotional violence that causes no less harm to the child's mental and physical health than other forms of violence (Swann & Bosson, 2010).

Parents, who are unaware of the negative consequences of ill-treatment, only worsen the situation for their children when they try to educate them (Boxford, 2006). The reaction of a child or teenager will depend on his or her age, experience and character. However, it is interesting to note that children exposed to ill-treatment often become abusive to their own children similar to what they experienced in childhood (Hall & Hayden,

2007). Socio-economic challenges are determined by classes of the society, which are poor and rich (Zorrilla, Pires, Lasheras, Morant, Seoane, Sanchez & Durbán, 2010; Swann, Rentfrow & Guinn, 2005). Moral and ethical challenges are initially caused by inadequate cultural and spiritual development of society (Gauffin, Vinnerljung, & Hjern, 2015). Subsequently, this leads to an indifference to teenage deviant behavior in disregarding family, school, and society at large. So far, we have delved into the main issues related to deviant behavior. Aberrant behavior by school pupils undoubtedly requires an adequate response (Hanimoglu, 2018). In modern pedagogy there are three ways to address this: social psychological rehabilitation, social and pedagogical prevention and psychological and pedagogical support.

2.2 Causes Of Recurrent Fire Disasters In Schools

Fire disaster has become a global prevalent disaster experienced in most public and private secondary schools and other learning institutions with likely no country is exempted from this disaster whether developed or developing. Lending credence to this, not fewer than 43% of 938 secondary schools surveyed by the Arson Control Forum ACF in the United Kingdom recorded large numbers of fire incidents between 2003 and 2006 alone. Kenya, a developing country in Africa has fire disaster as a common phenomenon experienced in secondary schools and other learning institutions. The National Fire Data Center (NFDC) in 2007 reported that Africa is one of the continents recording several fire incidents across its regions partly due to several reasons such as lack of preparedness and limited awareness programs among the citizenry and some key institutions.

The literature on causes of fire disasters has drawn a substantive conclusion that the rapid growth of fire disasters in secondary schools and other learning institutions are eminently linked to different reasons. One of the factors is arson which defined as a deliberate fire set by an individual or group of persons on private or public properties, mainly in a form of protest or vengeance against institutions or government. According to Tolofari , some fire outbreaks are caused by some individuals with malicious intent to show displeasure or create destruction. Arson was a cause of secondary schools fires in Kenya, as an expression of dissatisfaction with the school administration

Kahwa and Anyanwu et al. in their studies found faulty electrical installations, use of unqualified electrical engineers during installation , use of substandard electrical materials to save cost , overloading of electrical appliances and maintenance of electrical wiring , as the cause of fires. Careless use of gasoline and naked flames such as candle, filling-up kerosene lamp tank while the lamp is lit , cooking materials, lighting devices like lanterns, cigarettes, and lighted mosquito coils , are some of the causes of fire disasters. For example, fire outbreak from candle used by a student to study at night took 12 girls lives and left 15 others injured in a secondary school dormitory in Tanzania. Other causes of fire incidents identified by researchers include bush/waste burning , alcohol, drugs, and smoking which was one of the causes of fire disaster in Nepal in a survey carried out by Gautam . Hall maintained that smoking-related materials have been the historical cause of different fire deaths in the United State. Reinforcing this fact, reported that 75% of fire outbreaks in Ghana are caused by smoking and use of drugs. The incidents of fire-outbreak in Nigeria are grossly increasing every year ranging from different locations like residential buildings, warehouses, learning institutions and so on.

In December 2017, fire raid a hostel in Government Science Secondary School, Kware, Sokoto State. In the same vein, students' valuables in the four-room of A'isha hostel, a public secondary school exclusively meant for girls in Mabera, Sokoto State were completely devastated by fire from electric sparks in January 2018. Ilorin, the capital of Kwara State has over the years attracted migrants from various parts of the country. Reasons for such migrations may be partly down to its strategic location as a gateway between the northern and southern parts of the country . The religious intolerance experienced in the northern parts of Nigeria in the late 90s , the insurgency in north-eastern parts of the country , and the recent herdsmen activities has contributed to the influx of people in the city. Human errors from the population exponentials are one of the major contributory factors to fire outbreaks. Demand and careless use of facilities and utilities such as gas cookers, electrical appliances and so on, in public and private secondary schools along with nearby houses are some of the influx hurdles. However, losses emanating from the fire incidents in public and private secondary schools in Ilorin metropolis are very alarming. For instance, 3 fire disaster events purported from sparks of working generators and setting undergrowth on fire by unknown persons in 2012 resulted in the loss of properties worth N6, 600, 000 million naira at St. Mary International School, and Cherubim and Seraphim College, Ilorin between 2015 and 2019 in Kwara State Fire Service's 2019 annual report. These huge losses are clear evidence of lack of preparedness, sense of urgency and mode of prevention.

Despite the fire incidents and losses incurred, researchers have been working relentlessly to provide different models and analytical tools to establish logical solutions to fire outbreaks. For instance, invoked fuzzy logic model to analyze urban market fire disaster

management in Nigeria while used a risk analysis model to explained fire disasters situation in commercial complexes in Nigeria. The purpose of providing such tool(s) is/are to assist in unveiling the key causes of fire disasters, take result so riented actions for prudent management and continuous improvement on fire situations . Therefore, this study sought to find out “the cause-and-effect-analysis (fish bone analysis)” along with its application to latent analysis and causes as well as proposing solutions to fire incidents and cost of property loss in public and private secondary schools in Ilorin metropolis.

2.2.1 Major Causes of Fire Disasters in Public and Private Secondary Schools in Ilorin Metropolis

Bush/waste burning Problem: Bush/waste burning has been one of the problems faced by public and private secondary schools in Ilorin from indiscriminate waste burning in nearby houses, school premises and immediate environs, particularly during the dry season. Setting undergrowth on fire by hunters amongst others are other root causes of some fire disasters in public and private secondary schools in Ilorin resulting in huge losses and destruction of personal and public properties. An example of huge loss from bush/waste burning in secondary schools in Ilorin were fire incidences in 2015 and 2019 at Cherubim and Seraphim College, Ilorin. Properties worth N4, 100, 000 million naira were lost to this phenomenon.

The remedy to this may include; clearing of school compounds, strict punishment on students and teachers who litter the school compound, provision of waste bins in various classrooms, staff common rooms, and restriction of hunters and herders getting access to school compounds. Refuse dump should be managed effectively.

Electrical fault/wiring Problem: Usage of electrical appliances for day-to-day activities are good but bears some consequences when not properly used. Findings show faulty electrical appliances, wrong connections, overloading of electrical outlets, sparks from fallen electric poles and so on have been endangering lives and especially the property of students, teachers and school valuables in public and private secondary schools Ilorin metropolis. For instance, properties worth over N2million naira were destroyed in a fire incident at St Mary International College, Ilorin in 2012 as a result of sparks from a working generator. Citing electrical problems in public and private secondary schools in Ilorin as case scenario through study observation reveals the root causes of these problems could be attributed to the non-insulated wiring system, overloading of junction boxes in some classrooms, computer laboratories coupled with leaving the classroom and office lights on even after school hours from negligence. Sparks happened from high voltage leading to fire disaster when bulbs were not put off and when overloaded boxes were heated and could no longer bear the loads.

To get rid of these electrical fire problems in public and private secondary schools in Ilorin, conscientious efforts and actions must be taken. Amongst such efforts are: putting off all electrical appliances like computer systems, fans, electric kettle, cookers, socket and air-conditioning systems when not in use at the laboratory, kitchen, hostel and offices. By so doing sudden sparks from the high voltage that causes alarming destruction to lives and property will be prevented. Replacing burnt fuses with cables of higher melting point personally by students and teachers may result in a great fire disaster hence; trained engineers/qualified electrician(s) should be employed by each school to fix electrical problems.

Arson Problem: Arson (intentional fires) is a fire deliberately set by an individual or group of persons on private or public properties, mainly in a form of protest or vengeance against institutions or government. Some fire outbreaks in public and private secondary schools in Ilorin are caused by some individuals with malicious intent to show displeasure or create destruction. Public and private secondary schools in Ilorin are not free from arson. Fires set up are engineered politically or psychologically through the use of drugs, hard substances or when individuals are psychologically depressed. Resultant fires may be emotionally induced from cultism rivalry among male teachers and students over a girl or superiority within and outside the school. Another root factor is school policies/laws with sub-causes such as tuition fees and student leaders fond of bullying other students. On arson caused fires, KSFSH documented that arson-suspected individuals gutted Government High School, Ilorin on fire in November, 2012. The culprits could probably do so to show dissatisfaction due to one or more of the aforementioned reasons.

To curb arson problems, proper and full fencing of school compound with secure gates and placement of security men at the entrances would help schools in reducing such crime and also help to bring culprits to book.

Carelessness Problem: Some public and private secondary schools in Ilorin has experienced some form of destruction from carelessness. Carelessness is a result of different reasons linked to mishandling of chemicals in various laboratories during experimentation, the nonchalant dropping of smoking butts by smokers, and overturn and careless use of gas cookers amongst others. Careless use of combustible materials like the use of candles in school dormitories, hostels, glossy paints and other combustible

materials for decoration and beautification of offices, classrooms and hostel rooms are also root-cause of fires. For instance, during visitation to schools some students at Cherubim and Seraphim College, Ilorin were jokingly discussing between themselves how one of them played with fire which later escalated beyond his expectation. Carelessness is a contributory factor to fire outbreaks in most public and private secondary schools resulting in loss of lives, personal and public properties.

Carelessness can be prevented by making matches sticks available to light gas burners in kitchens and laboratories. Adding to this, keeping gas cylinder outside kitchens and laboratories would help the flow and leakage into the air outside the laboratories and kitchens to prevent the explosion from careless use of this equipment. Avoidance of use of combustible materials such as papers for decoration. In any circumstance, if petrol must be stored, it should be kept far away from the kitchens, lantern or candlelight.

Alcohol, drugs and smoking Problem: Lack of proper fencing of the school compound has resulted in the intrusion of drug addicts and smokers at odd periods. Improper disposal of cigarette butts and stub, leakage of fuel from school buses as itemized by 23% of the principals interviewed were notable root causes of fire disaster in public and private secondary schools in Ilorin. Per observation, some hoodlums often smoked in the evening after school hours. Furthermore, findings show 61.11% of public and private secondary schools in Ilorin are partially or not fenced. Partially and not fenced school compound has made intrusions so easy for the drug addicts and smokers in the area. Of which, during visitations, some classrooms were seen littered with pieces of papers which are potential fuel of fire disaster.

To tackle this drug addict act in or around public and private secondary schools in Ilorin, full fencing of school compound with secured gates and recruitment of experienced security men at various entrances. This would help schools in reducing fire disaster eventualities from the perpetrators. Prohibition of smoking within and around school premises during school hours by school users should viscosly be enforced. School management should consistently monitor school drivers who smoke or take in alcohol.

2.2.2 Causes of School fires in Kenya

School riots, culminating in school burning are not new in Kenya. Right from 1980s, through 1990s to date, school fires and strikes have continued to be widespread in Kenya. The experiences of raping of girls in St. Kizito school, fires of Kyanguli, burning of prefects in Nyeri high school among various other memorable negative school incidences are not new.

In recent years, we can seeing the repeat of the experiences of yester years. For example in 2016 alone, over 100 schools were burned across the county. The government has often reacted by setting up commissions to establish the root causes which characterizes the climax and is typical in developing countries like Kenya. The irony lies in the implementation of the commission's findings. At the beginning, the momentum is recognizable, but as time rolls on, the zeal burns out and the momentum is lost.

Social decadence has been touted as of the reasons for rebelliousness among secondary school students which has in many cases led to torching of schools. Kenya's society is one that has skewed attitudes, "a don't-care attitude"; is a society that has lost morals among its youth, even adults. The students get supported in their ways by the very

members of society, they purchase fuel to burn and get supplied with drugs by the very society (Cooper, 2014). This kind of attitude has made the young generation see the rogue behaviors including burning of schools as normal.

Kisurulia, Katiambo & Lutomia (2015) argue that school related factors also contributes largely to violence and burning of schools. These range from school management style to school environment, lack of guidance and counselling in schools among other school related factors. Boarding school attendance is resilient in Kenya because of economy of scale, bureaucratic control and efficiency. The result is that the direct supervision of millions of children has been transferred from parents to educators who often know little about the students. Until they get to school, the children know little about boarding schools as there is no preparation for transition. At any rate, nothing could prepare any student for the worst excesses of boarding school life in Kenya.

A 2017 report described bullying at the country's top schools. Students pulled out of a dormitory at night and frog marched while being beaten; students forced to wake up at night to clean toilets and classrooms while being whipped with belts and hockey sticks; younger boys missing meals due to inadequate cutlery and short mealtimes. These experiences are forms of violence with varying intensities on their effects. However, society is more fixated on student violence than the autocratic nature of institutions and the oppressive structures (Moywaywa, 2022). Until authorities shift focus to the deep negative experiences and anguish in boarding school, the burning is likely going to continue. Students are political actors and conscientious beings with expectations and capacities to act. When dehumanised, students will act, react, or engage, sometimes with

protest and intense violence. Kenyan students have learnt that arson is effective as a tactic in protest politics.

Nderitu (2009) opines that apart from school related factors There are also home-based factors that contribute to arson in schools by students. Inadequate family time was partly blamed on busy work schedules this left some children exposed to negative peer influence, thus engaging in various forms of violence. Children from authoritarian parents are exposed to a microsystem in which the parent-child relationship is characterized by the parent bullying the child. An authoritarian parent is very strict to the child and does not allow the child to express their concerns. Failure by the child to follow the laid down regulations results to punishment without being given a fair hearing. The relationships end up creating fear in children and frustrations. The expectation of the child to be listened to by parents and accorded understanding is seriously undermined. Instead the child learns from their parent to use violence in solving conflicts. Children also develop resentment for their parents and other authority figures such as school prefects and teachers. Authoritarian parents do not entertain dialogue with the children. Such children are not socialized to listen to others view point instead aggression is their way of expressing themselves. Since children look upon their parents for mentorship, authoritarian parents are models of violence to their children who later transfer the violence to school by bullying fighting and at its worst school strikes and destruction of school property. Permissive indulgent parents are granted excessive freedom and material support to their children. Parents do not demand responsibility from their children's actions, yet children look upon their parents for advice. Lack of set standard provides a microsystem which hinders development emotional regulation. Children from permissive

indulgent parents are less likely to model violent behavior from their parents; however they are unlikely to learn emotional regulation and delayed gratification. Since children view their indulgent parents as resource to be used without accountability they are likely to translate this behavior to other members of the society including school community, as such they are more likely to be involved in behaviors such as verbal bullying when their demands are not met by their teachers and peers. On the other hand children from permissive neglectful are left unattended materially and emotionally. These students are usually bitter and are easily provoked they are likely to engage in violence in self defense of the bitterness, given that their parent are not bothered with what happens to them.

Moywaywa (2022) is of the opinion that poor management of schools, overloaded curriculum, low morale among teachers, peer pressure, drug and substance abuse, indiscipline and rampant expulsion of students, impact of post-election violence and moral decay in society. There is a remote possibility that examination fever could also be a factor, especially by a few disgruntled students who are not well-prepared and may want to disadvantage the others who are prepared and who are the majority. Since the abolition of corporal punishment, students have become indisciplined. The vacuum left by the abolition of caning has never been filled, giving learners room to become unruly.

A de-localisation policy introduced by the Government has been cited as a cause burning in schools. There have been claims that students and teachers are unhappy with the stringent rules being applied by new principals. Under the programme, the Government has posted new principals to schools outside their home areas, much to the chagrin of some residents who want local people to manage schools. In one incident, students of

Ortum High School in West Pokot County went on strike, demanding for that the new principal help them steal the national examinations. Additionally, some schools are being controlled by politicians and politicians have at times influenced the transfer of teachers. Politics has interfered with the management of schools, leading students to think that removing the 'offending' principal might relieve them from the harsh rules being enforced.

There are individual student's characteristics of personality and student's indiscipline, could be genetically and environmentally engineered elements of wickedness, Peer pressure: Youth is a period characterized by "influences". Wave of school burning is likely to influence the trend. The causes of strikes in Kenya have their roots in the very factors. Causes of burning of schools are just but "small yet big issues" here and there which serve as "triggers". These may include but not limited to being denied to watch a football match, poorly prepared food, high-handedness of the management (punishments), lack of dialogue, short term directives by education ministry and school management bodies, exam pressure, students' general indiscipline, sabotage, among others (Moywaywa, 2022). The litany of causes may go on and on. To address the issue of school fires and strikes in Kenya, there is need therefore to map all the root causes (factors) in order to design and implement school and home-based programmes that are all-stakeholders-inclusive.

vember 2017.

2.3 Strategies to Mitigate Fire Disasters In Schools

Fire safety management has been studied by many researchers across the globe (Chen et al., 2012; John, 2012; Kong, 2011; Salleh & Ahmad, 2009; Prashant, 2007; Chow, 2002;

Santos-Reyes & Beared, 2001; Lui & Chow, 2000; Howarth & Kara-Zaitri, 1999). This is because the fire safety community has recognized the importance of good fire management to reduce the vast increase in accidental fires (Woon & Suleiman, 2015). The provision of appropriate fire safety measures within buildings has until recent years generally been considered as a legislative issue determined by prescriptive standards for construction and compartmentation (Smith, n.d.).

Managing fire safety has to be a continuum covering the whole life of a building starting with the initial design and covering all aspects of its occupation, maintenance, modification and decommissioning and demolition (Smith, n.d.). According to Chow (2002), “the main objectives of fire safety management include: to ensure that the fire safety measures provided are kept in good order; to initiate actions in case of fire which would help occupants to reach a safe place; and to review adequacy of existing fire safety measures where there is a change of building, a change of building use and new technology on fire services installation”.

Akali, Khabamba and Muyinga (2009) observe that little has been done to prepare schools for fires. Only a handful of schools have fire extinguishers in offices, laboratories, stores and kitchens and even these are not regularly serviced. Furthermore, many public schools run on a shoestring budget and cannot afford the luxury of fire fighting equipment. School inspectors (QUASOs) hardly perform safety assessments during routine checks in schools. Limited supply of water i.e. many schools experience water shortages more often and lack hydrant points that would be effective in putting out

fires. Kumba (2008) reports that the Ministry of Education introduced new rules to improve safety in all provincial secondary boarding schools be given between Sh150, 000 and Sh350, 000 each to buy fire-fighting equipment. Every school was requested by the government to set up a safety committee. However, there are many schools which have not complied with such rules.

Makhanu (2009) adds that firefighting equipment and other life-saving devices should be generously displayed where they can be easily spotted even when one is extremely frightened. Teachers, learners and the subordinate staff should be routinely reminded about their existence and how to use them. For established institutions, automatic sprinklers, alarm and kitchen hood fire protection must be installed during the reconstruction or major repairs phases. There should be promptness in notifying the fire department for external assistance as employees and students attempt to extinguish the fire themselves. Construction, installation and maintenance processes, including periodic inspections should be done in a manner to insure safety and usability of fire fighting equipment. Fire fighting resource persons could be invited for such exercises. However, most of these activities have not been carried out in the secondary schools in Kenya. Even the schools that have fire extinguishers may not teach learners how to use them. Resultantly, in case of a fire disaster, schools are still unprepared.

There are many schools which do not have adequate fire fighting equipment (Shaw, 2002). Ians (2010) on a study in India discovered that as many as 1,200 schools in the national capital, including some top privately run institutions, are flouting fire safety norms. He said most schools seemed more interested in admitting a large number of children instead of providing them a safe environment. He further noted that many

schools in the capital start operation with a “temporary” no objection certificate (NOC) on the understanding that they would install the necessary equipment within one year. However, many educational institutes never go back to the fire department for getting a permanent NOC. While many government schools do not have basic fire-fighting equipment, many private schools have not bothered to get their facilities certified from the fire department.

Mwenga (2008) on a study to establish the safety preparedness of secondary schools in Kyuso District, Kenya established that in this district there are no adequate fire fighting equipments in the schools as majority, 43% had between 1 - 5 fire fighting equipments. In addition, the number of fire fighting equipment, fire fighting points and first aid kits were found to be un-proportional to the size of the schools and the number of students hence inadequate to deal with any emergency. The schools rarely trained their students on safety measures as indicated by 44.5%, hence the students were not well-equipped with necessary training needed to handle emergencies in the schools. In addition, the members of staff and school matrons were not well-trained on fire fighting techniques since only 56.0% were fairly trained.

Lucheli and Masese (2009) also noted that the high cost of fire fighting equipment has made it impossible for North Rift schools to install the kits. Though many schools have removed grills from windows and installed double doors in dormitories, they lack fire extinguishers. Following the 2001 fire disaster at Kyanguli in Machakos, where 67 students lost their lives, the Government gave money to secondary schools for safety measures. However, Lucheli and Masese (2009) observed that most schools lacked fire extinguishers and where they were available; they were not in good working condition.

Most schools have tried to meet the safety requirements, but fire extinguishers are still a challenge. The principals in this region reported that schools acquired fire fighting equipment from one company with Government funding, but what the company delivered was substandard. After the Government stopped funding, schools started single sourcing, but stringent budgets frustrated their efforts. In Nyanza, more than 1,000 secondary and 5,000 primary schools do not have sufficient fire fighting equipment. This shows how ill-equipped schools are to fire in case of a fire disaster hence fire unpreparedness.

Fire safety measures include those that are planned during the construction of a building or implemented in structures that are already standing, and those that are taught to occupants of the building. For some buildings the doors could be too small for speedy intervention or that buildings were not well designed to allow free movement beyond some points (Rowan, 2001). In such cases, fire extinguisher materials may not adequately reach targets. Combustible materials must not be used for decorations or in building components-this would usually accelerate heat transfer to sufficient temperatures raising the combustible materials to the point at which they would burn. Occupancy limit requirements should be strictly enforced so that hostels should accommodate beyond recommended numbers. Exits need to be kept clear of obstructions and plainly marked. In this regard windows should not be grilled to allow complete opening in event of an emergency. Exit doors should swing in the direction of exit traffic flow. Public assembly buildings/halls must have two separate means of exit, remote from each other. As an outdoor event fire safety, avoid waterproof measures on equipments like tents which in themselves carry potency for disaster or are hazardous. For instance, coating tents with a

covering of paraffin thinned by using gasoline presents a highly flammable covering (Marion & Maingi, 2010).

Oduor (2012) observes that the Ministry of Education introduced recommendations that classrooms should only accommodate between 30 and 40 students to reduce congestion. One evident thing with fire disasters is that boarding facilities in most schools in Kenya are designed to lock students in, whatever the circumstances; the country's conservative society apparently does not trust its youth to do the right thing. Disasters like Kyanguli, however, show that this approach, where students are barricaded in dormitories designed like security facilities, invites disaster. This is a further implication that even though schools have made effort to prevent and manage fire disasters, fire disaster preparedness is still poor.

Fire disasters are by far the most common disasters in learning institutions in Kenya (MOEST, 2001). Vulnerability of learning institutions to fire disasters is contributed by, among other factors, lack of safety measures like adequate exits, fire fighting equipment and insufficient fire fighting resources; absence of an evacuation plan in event of fire strike; unawareness by vulnerable persons (students) about imminent fire; being within the risk factor, for example, being in the burning building and becoming a victim; poor installation and storage of inflammable material; easy access to hazardous fuels and flammable materials. The culture of student unrest in learning institutions has increasingly taken a violent and destructive trend.

More badly, studies MOEST (2001) indicate that such unrests are premeditated, planned and executed to yield maximum harm to human life and extreme destruction to property. There is need for a tangible disaster preparedness and risk reduction policy targeting

learning institutions as a way of raising awareness particularly on the unpredictable disasters like fire. Years of development efforts are destroyed and subsequent operations of the affected institution grossly disrupted. Reactive measures like seeking assistance from Constituency Development Funds, well-wishers and going back to already impoverished parents does not yield much. Disaster preparedness and risk management interventions will empower learning institutions to safeguard against fire related disasters. This implies that there are many strategies that the educational institutions can use to improve fire preparedness in schools.

Ndiang'ui (2006) on a study on vulnerability of Kenyan schools to fire disaster observed that to some extent, the degree of exposure to fire disasters in schools is influenced by the administrative framework of the school. For example, lack of early warning systems to help control fire in its early stages; lack of disaster preparedness plans; lack of fire drills and First Aid Kits; lack of basic training on security; lack of fire extinguishers in key areas or lack of emergency exits etc expose schools to disasters. She concluded that adequate strategies have not been put in place to cope with fire disaster and schools are not prepared at all for disasters. She proposed that to achieve reasonable levels of minimization, it is necessary to reduce the adverse effects of disasters through effective precautionary measures like having fire safety plans.

2.4 Conceptual Framework

2.4.1 Bronfenbrenner's Ecological Systems Theory

The study was anchored on Bronfenbrenner's ecological systems theory, which views child development as a complex system of relationships affected by multiple levels of the surrounding environment, from immediate settings of family and school to broad cultural

values, laws, and customs (Ryan, 2001). This theory looks at a child's development within the context of the system of relationships that form his or her environment. Deviance and related behaviors are thus influenced by the surrounding environment. Bronfenbrenner's theory defines complex "layers" of environment, each having an effect on a child's development. This theory has recently been renamed "bioecological systems theory" to emphasize that a child's own biology is a primary environment fueling her development. The interaction between factors in the child's maturing biology, his immediate family/community environment, and the societal landscape fuels and steers his development. Changes or conflict in any one layer will ripple throughout other layers. To study a child's development then, we must look not only at the child and her immediate environment, but also at the interaction of the larger environment as well. Bronfenbrenner's structure of environment is shown in Figure 2.1

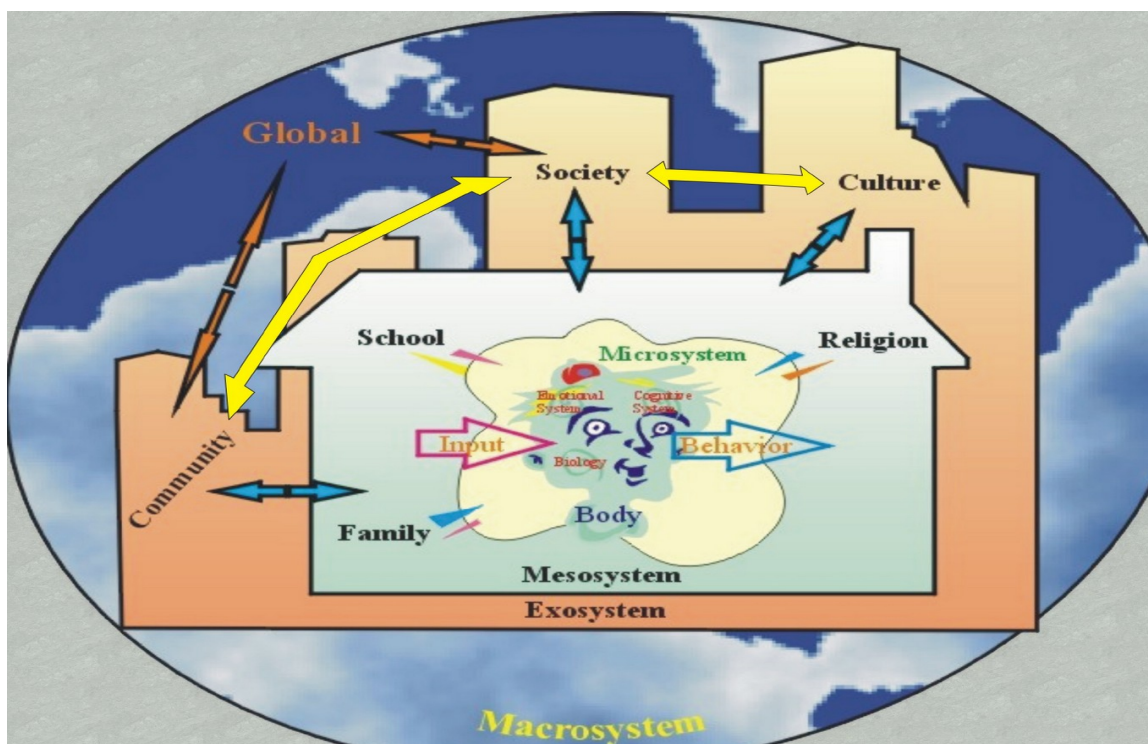


Figure 2. 1: Bronfenbrenner's structure of environment

Source: (Ryan, 2001).

The microsystem – this is the layer closest to the child and contains the structures with which the child has direct contact. The microsystem encompasses the relationships and interactions a child has with her immediate surroundings (Berk, 2000). Structures in the microsystem include family, school, neighborhood, or childcare environments. At this level, relationships have impact in two directions - both away from the child and toward the child. For example, a child's parents may affect his beliefs and behavior; however, the child also affects the behavior and beliefs of the parent. Bronfenbrenner calls these bi-directional influences, and he shows how they occur among all levels of environment. The interaction of structures within a layer and interactions of structures between layers is key to this theory. At the microsystem level, bi-directional influences are strongest and have the greatest impact on the child. However, interactions at outer levels can still impact the inner structures.

The mesosystem – this layer provides the connection between the structures of the child's microsystem (Berk, 2000). Examples: the connection between the child's teacher and his parents, between his church and his neighborhood, etc.

The exosystem: this layer defines the larger social system in which the child does not function directly. The structures in this layer impact the child's development by interacting with some structure in her microsystem (Berk, 2000). Parent workplace schedules or community-based family resources are examples. The child may not be directly involved at this level, but he does feel the positive or negative force involved with the interaction with his own system.

The macrosystem: this layer may be considered the outermost layer in the child's environment. While not being a specific framework, this layer is comprised of cultural values, customs, and laws (Berk, 2000). The effects of larger principles defined by the macrosystem have a cascading influence throughout the interactions of all other layers. For example, if it is the belief of the culture that parents should be solely responsible for raising their children, that culture is less likely to provide resources to help parents. This, in turn, affects the structures in which the parents function. The parents' ability or inability to carry out that responsibility toward their child within the context of the child's microsystem is likewise affected

The chronosystem – this system encompasses the dimension of time as it relates to a child's environments. Elements within this system can be either external, such as the timing of a parent's death, or internal, such as the physiological changes that occur with the aging of a child. As children get older, they may react differently to environmental changes and may be more able to determine more how that change will influence them.

The importance of these layers for the study of deviance is enormous since deviance exists at the intersection of conflicting beliefs regarding right and wrong, good and bad, acceptable and reprehensible. In order to understand deviance, we must grasp the meanings that guide the actions of and interactions among different people, including, most prominently: those who seek to ban, punish, or otherwise control deviance and those who become identified and treated as deviant (Blumer, 2012). This theory will put into perspective factors that stimulate deviant behaviors among students within Bungoma County which then leads to recurrent fire disasters in the form of arson attacks.

2.4.2 The Pressure and Release Model

The theory provided the link between the dependent and the independent variable by putting into perspective issues that lead to deviant behaviors within the society with the focus being the school environment as well as the socialization process of these students in the process of growing and schooling. This mostly brought out factors that make some of these students resort to burning of schools as the only way to express themselves or as the only effective mode of communication to various authorities who are targeted by such reckless acts.

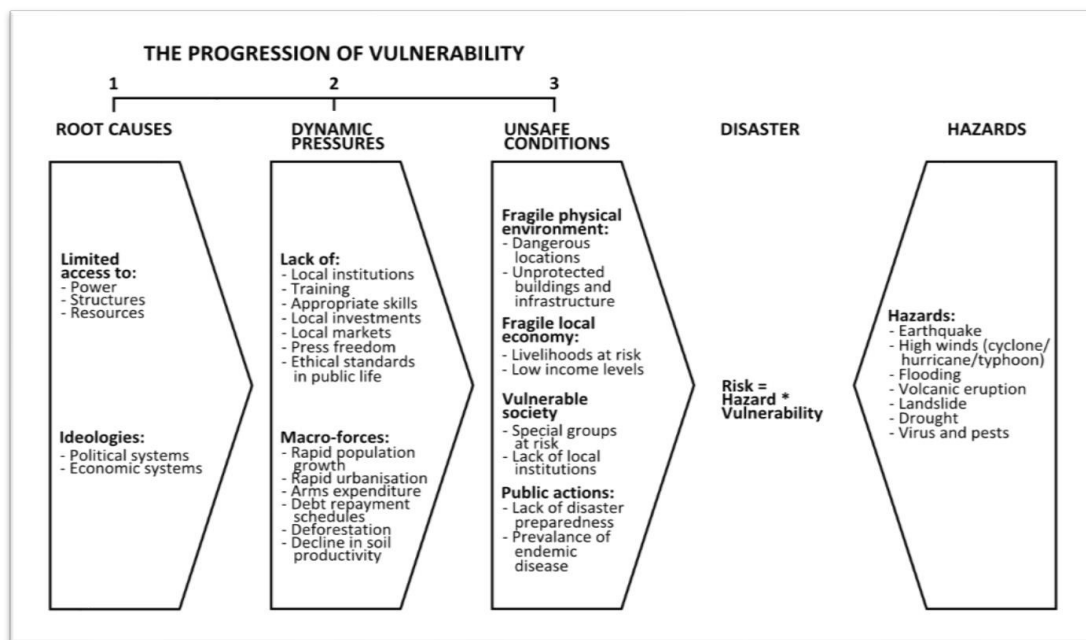


Figure 2.2. Pressure and release model.

Source: (Winser, 2004, p. 47).

For understanding vulnerability to disaster and to reduce it disaster managers use pressure and release (PAR) model (Wisner, 2003) as a conceptual framework. The PAR model

argues that disaster occurs at the tangent between two counter forces, those of natural hazards and the processes that generate vulnerability. It is when these two forces coincide that a disaster happens.

The disaster happens when two opposite forces intersect. The processes generate vulnerability on one side, and the physical exposure to hazard on the other. The PAR model is modified to the context of fire disasters in secondary schools in Bungoma County.

When physical exposure and Socio-economic pressure intersects, the production of this intersection will be a disaster. This model has three components on the social side: Root cause, Dynamic pressure and unsafe condition, and another component on the natural side is a natural hazard themselves.

Root cause included an economic, political and demographic process which affects the allocation and resource distribution between different vulnerable groups of people. Dynamic pressure is added with the economic and political process in local circumstances. Unsafe conditions are identified in a specific form in which vulnerability is expressed in time and space, such as those induced by the physical environment, the local economy and social relations. The interaction between the variable is illustrated in figure 2.3.

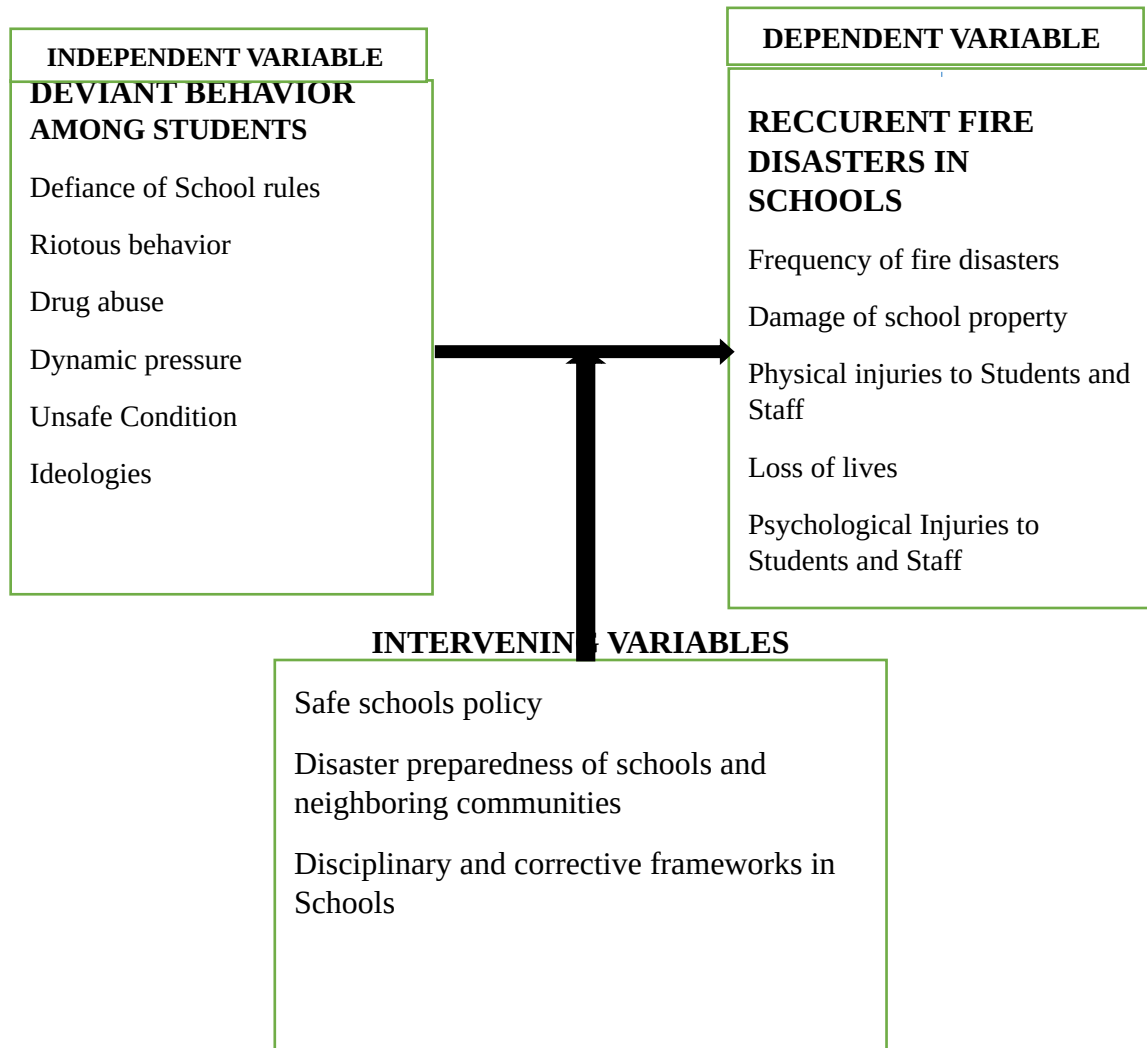


Figure 2. 3 : Conceptual Framework Model
Source: Researcher, 2023

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter highlights the research design that was used, area of study, population of the study, sample selection methods and size, data collection methods, validity and reliability, procedures of data collection and data analysis methods that were adopted. Ethical considerations limitations, summary of chapter

3.1 Research Design

Research design is a comprehensive plan for data collection in an empirical research project. It is a 'blueprint' for empirical research aimed at answering specific research questions (Bhattacharjee, 2019). The study adopted descriptive research design. Descriptive research is directed at making careful observations and detailed documentation of a phenomenon of interest. These observations must be based on the scientific method (i.e., must be replicable, precise, etc.), and therefore, are more reliable than casual observations by untrained people (Bhattacharjee, 2019).

Bell (1993) states that descriptive design seeks to uncover the nature of factors involved in each situation, the degree in which it exists and the relationship between them (Bell, 1993). Descriptive survey research is an approach of Descriptive Research that blends quantitative and qualitative data to provide relevant and accurate information. Thus, will be employed in this study because it allows the researcher to adopt a holistic approach of the study hence enabling and utilizing research methods like questionnaires, interviews, observations and focus group discussions.

The research process can be symbolized as qualitative and quantitative (QUAL+QUAN). The research design; collects and analyzes both quantitative and qualitative data; mixes two forms of data in different ways and gives priority to both forms of data. In addition, it

increases validity of research results and helps to best understand and develop a more complete understanding of the research problem by obtaining different but complementary data. The purpose of this form of research design is that both qualitative and quantitative research, in combination, provide a better understanding of a research problem or issue than either research approach alone.

3.2 Study Area

The study was conducted in Bungoma County. The County lies between latitude $0^{\circ} 33' 48.60''$ North of the Equator, and longitude $34^{\circ} 33' 37.98''$ East of the Greenwich Meridian. The County covers an area of 3032.4 Km². It borders the republic of Uganda to the North west, Trans-Nzoia County to the North-East, Kakamega County to the East and South East, and Busia County to the West and South West. The major physical features include Mt. Elgon, several hills (Chetambe, Sang'alo and Kabuchai), rivers (Nzoia, Kuywa, Sosio, Kibisi and Sio-Malaba/Malakisi), waterfalls such as Nabuyole and Teremi. Mt. Elgon and Sang'alo hill have attractive caves. The altitude of the County ranges from over 4,321m (Mt. Elgon) to 1200m above sea level. The County has only one gazetted forest, the Mt. Elgon forest reserve which measures 618.2Km², and one National park, which measures 50.683 Km². The County experiences two rainy seasons, the long rains of March to July and short rains August to October. The annual rainfall in the County ranges from 400mm (lowest) to 1,800mm (highest).

The annual temperature in the County vary between 0°C and 32°C due to different levels of altitude, with the highest peak of Mt. Elgon recording slightly less than 0°C. The average wind speed is 6.1 km/hr. In the last decade, the County experienced increasing

variability in rainfall and temperature patterns that have influenced changes in agricultural seasons. Bungoma County is divided into 12 Sub-Counties, 45 wards and 149 sub-locations. The study was conducted in public secondary schools in Bungoma County. According to the Bungoma County CIDP (2018), there are a total of 369 public secondary schools and a total of 20 private schools in the county. The public schools have a total student enrolment of 151,438 and the private schools have a total enrolment of 2,250. The schools have public schools have a total of 4013 teachers and 157 teachers in private schools (Basic Education Statistical Booklet, 2019).

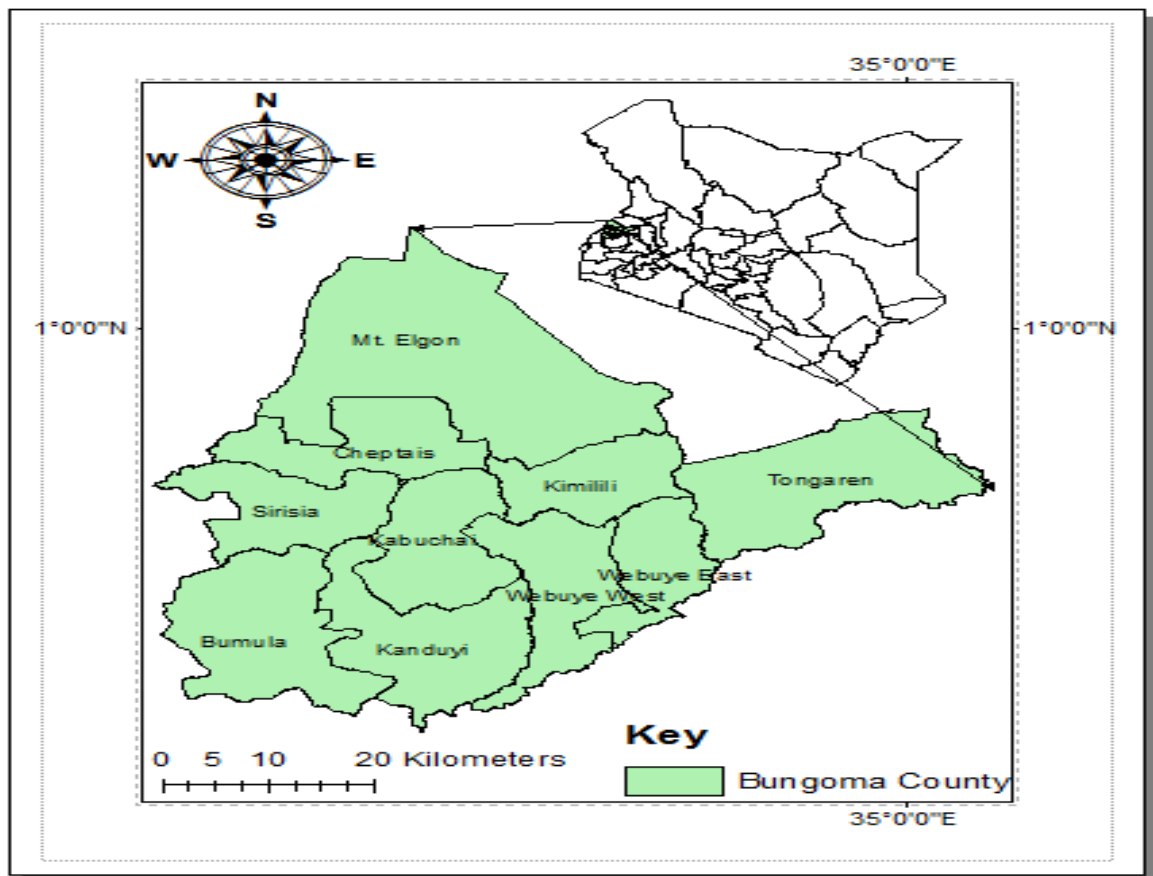


Figure 3. 1: Map of Bungoma County

Source: GIS Expert, SDMHA (2023)

3.3 Target Population

The target population consisted of the following groups of respondents; Deputy principal administration (in charge of discipline), guidance and counselling teachers, school prefects, school counselors, students, Neighboring Community, county director of education officials in charge of quality assurance and standards, security officers-security guards, Kenya Redcross Bungoma Branch and Bungoma County Fire Brigade. Teachers, PTA and BOM who participated in the study were drawn from the following schools that have had fire incidences in the recent past; Chesamisi Boys, Khasoko Boys, St. Mary's Kibabii Boys, Kimaeti Boys, Mabanga Girls, Chebosi Secondary School, Cheptais Boys, Milo Friends Boys, Malakisi Mixed, Bishop Eliud Wabukhala, Kimili Boys, Mitua Girls, Kimugui Boys, Sikusi Secondary School and Namwela Boys

3.5 Sampling strategy

Bungoma County was purposively sampled due to the numerous incidents of school fires that had been recorded. The study was conducted in public secondary schools in Bungoma County. According to data from the county education offices, there are 369 public secondary schools and the public schools a total student enrolment of 151,438 with a total of 4013 Teachers. In this regard, the target population for the study was 151,438. This is considered a large population and therefore Cochran's formula is considered appropriate for the situation.

The Cochran formula is:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

- e is the desired level of precision (i.e. the margin of error),
- p is the (estimated) proportion of the population which has the attribute in question,
- q is 1 – p.
- The z-value is found in appendix 3

For the study , the study assumed that half of the students and teachers in various schools have witnessed fire disasters in schools in Bungoma county. : this gave maximum variability So p = 0.5. Now 95% confidence, and at least 5 percent—plus or minus—precision. A 95 % confidence level gives us values of 1.96, per the normal tables, so we get

$$((1.96)^2 (0.5) (0.5)) / (0.05)^2$$

= 384 Student respondents

Table 3.1: Showing selected schools and number of students

Chesamisi Boys	Kimilili	1,050	21
Khasoko Boys	Bumula	987	20
Bishop Eliud Wabukhala	Sirisia	956	19
Kimaeti secondary	Bumula	867	17
Mabanga Girls	Kanduyi	1234	25
Sikusi Secondary	Sirisia	563	11

Namwela Boys	Sirisia	1275	25
St. Marys Kibabii	Kanduyi	2485	50
Chebosi Secondary	Webuye West	694	14
Cheptais Boys	Cheptais	2,143	43
Milo Friends Boys	Webuye West	1659	33
Kimugui boys	Kanduyi	748	15
Malakisi mixed	Sirisia	423	8
Mitua Girls	Tongaren	1350	27
Kimilili Boys	Kimilili	2786	56
Total		19,220	384

Source: MOE, 2023

3.6 Data Collection Instruments

This study utilized both primary and secondary data. Primary data were collected using questionnaires, interview guides, Focus Group Discussions (FGDs) and observation checklist while secondary data were collected from various relevant published materials, minutes of meetings, periodicals, theses and journals.

3.6.1 Primary Data

The researcher collected primary data from the respondents using structured questionnaires, interview guides for key informants. These tools were constructed based on the specific objectives of the study.

3.6.1.1 Questionnaires

Students questionnaire (Appendix III) was used to collect information from 384 students within Bungoma County. Tromp (2006) describes a questionnaire as data collection

instrument suitable for eliciting data from larger group of respondents and Kothari (2004) prefers this tool because it tends to be free from interview bias since the responses are respondents' opinions. They are suitable for collecting current information and more so from opinions.

Questionnaires was used for this study because; large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way; they can be carried out by the researcher or by any number of people with limited effect to its validity and reliability and the results of the questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package (Mitchell *et al.*, 2003).

The questionnaires were presented to students. The questionnaires were both closed and open ended questions. The questions were both nominal and Likert - type scale based to characterize variables.

3.6.1.2 Interview Guide

Key informant interview schedules was used to collect data from various officials whose work is directly linked to the issues of students. Interview schedules was employed to compliment questionnaires in obtaining first-hand information as well as reduce ambiguity in responses. This instrument was used to gather qualitative data from key informants. During interviews, researchers can glean both factual information and subjective accounts from key informants (Yin, 2009). Interviews were conducted with school deputy principals (administrations, security guards, school headprefects, BOM

Chair, PTA Cahir redcross officier in charge of disasters, MOE officer in charge of quality assurance and standards, spiritual leaders and Guidance and counselling teachers.

3.6.1.3 Focus Group Discussions (FGDs)

According to Bryman (2008), a focus group discussion can be used as a semi-structured data collection approach and a tool for conducting a fast assessment. FGDs was neighboring community mmebers. Bryman, (2008) suggests that this method is advantageous for generating data when investigating a homogeneous group or groups of participants. Therefore, this instrument is appropriate to this study since the themes of the study will be homogeneous. The study used Focus Group Discussions to get diverse opinions from various groups who were selected neighboring community members equally since they were the ones who interact with the students closely. The groups were homogenous. The study conducted six FGDs in the study area with each consisting of a 10 members.

3.6.1.4 Observation

Observation is a data collection method that involves the systematic recording of behaviors, events, and other phenomena in a natural or structured setting. In the context of the study on the nexus between deviant behavior and recurrent fire disasters in public secondary schools in Bungoma County, Kenya, the researcher used observation to collect data on the impact of fire disasters, available fire fighting instruments and equipment in schools.

During the observation phase, the researcher was present in the field to observe and record the behavior and activities of the students within the school. The researcher used a

checklist to systematically record the data. The observation checklist included the items of fire installation and equipment.

Table 3.2: Summary of the target Population, Sampling Strategy, Sample size and data collection method

Population category	Population size	Sample size determination	Sampling method	Sample size	Method of data collection
Students	151,438	<i>Cochran formula</i>	- Simple random sampling	384	Questionnaires
Key Informants					
Deputy principal administration	15	100%	census	15	Interviews
(OCPD)	10	100%	Census	10	Interviews
Officials of Civil Society organizations dealing with disasters	5	100%	purposive	5	Interviews
Chiefs	15	30%	purposive	6	Interviews

School headprefects	15	100%	- Purposive	15	Interviews
Scouts	15	100%	Purposive	15	interviews
Guidance and Counseling teachers	15	100%	-Purposive	15	Interviews
Boarding masters	15	100%	cesnus	15	Interviews
Redcross official in charge of disasters	1	100%	census	1	Interview
Officer in charge of county fire department	1	100%	cenus	1	Interview
School spiritual leaders	15	100%	- purposive census	15	Interviews
BOM Chair	15	100%	pruposive	15	interviews
PTA Chair	15	100%	Purposive	15	interviews
Sub Total				143	
Community members	300	20%	Purposive Simple random	60	FGDs
TOTAL				203	

Source: Researcher, 2023

3.6.2 Secondary Data

Secondary data were collected from relevant secondary materials such as research articles, reports by government agencies, research dissertations, and policy documents among others. Each material were assessed based on its relevance to the study objectives including minutes of the meetings and records of indiscipline cases in schools.

3.7 Validity and Reliability of Instruments

3.7.1 Validity

According to Best and Khan (1993), validity refers to the extent to which outcomes obtained from analysis of data really represent the phenomenon under study. To test the validity of the research tools, the questionnaires were subjected to cross checking by other scholars and also to evaluate the dependence of the matter. Precisely, reliability was bias in terms of content and structure validity. Content validity sought to test whether the test covers a representative sample of the domain to be measured in the study. Construct validity on the other hand sought to establish how well this study would measure up to its claims.

Content and construct validity were examined by the supervisors as well as scholars at the Department of Emergency Management studies at Masinde Muliro University of Science and Technology where suggestions were made and the instruments adjusted accordingly. Samples were chosen from school officials as well as the the public members conversant with the subject of deviant behaviors and school fires. Similarly, the researcher conducted a 3 day facilitation induction to introduce two research assistants through the aspects of the study. This was achieved by identifying two suitable research assistants and then taking them through training as well.

3.7.2 Reliability

Reliability is defined as the degree to which similar words, phrases, or other types of data are consistently assigned to the same pattern or topic by various researchers (Hussey & Collis, 2009). Cronbach's Alpha, a measure of internal consistency reliability, was used by the investigator; items on a three-, four-, or five-point Likert scale was excluded if their alphas was below 0.7. (Oncu, 1994). Coefficients greater than 0.7 was considered

suitable for statistical analysis. The cronbach coefficient was 0.856 translating to 85.6%. this indicates a high coefficient value thus, the tools are reliable.

The construct validity of the questionnaire was established by first defining the study variables operationally, and then basing the questions on the studied literature. Testing for content validity was used to see if the instrument provided satisfactory responses to all study questions. In addition, construct validity was evaluated using component analysis, which yields accurate coefficients for the study's variables and allows for subsequent use of those variables' results to make adjustments, revisions, and additions to the research instrument.

3.8 Data Analysis and Presentation

In analysis, the study followed the procedure of editing, coding, classification, and tabulation of raw data as recommended by (Kothari, 2004). Qualitative data were obtained from FGDs, and interviews were analyzed by narrative report using thematic techniques. The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inferences. Descriptive statistics was used to data that had been coded and entered into SPSS version 25.0 a statistical program designed for social scientists. The researcher presented the data in descriptive form through frequencies and percentages in graphs, tables and charts.

The qualitative data obtained from focus group discussions and interviews were analyzed through a narrative report using thematic techniques. The data was transcribed and

organized into themes and categories that emerged during the analysis. The themes and categories were then reviewed, categorized, tabulated, and recombined to ascertain meaning related to the study's initial objectives, research questions, and issues. This helped the researcher to review and ascertain and make meanings related to the study objectives and research questions.

Table 3.3: Data Analysis Summary Techniques per Research Objective

Specific objective	Research Design	Method of analysis
To examine the nature and extent of deviant among Students in Public Secondary schools	Descriptive	Descriptive(Frequencies, percentages, Fig). Qualitative (Thematic analysis)
Evaluate causes of recurrent fire disasters in public secondary sechools in Bungoma County	Evaluation	Descriptive (Frequencies, percentages, Tables, Fig) Qualitative (Thematic analysis)

To evaluate the strategies of mitigating fire disasters in schools	Descriptive	Descriptive (Frequencies, percentages, tables, Fig) Thematic analysis
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Source: Researcher, (2023).

3.9 Limitations and Delimitations of the study

Due to the busy schedules of some of the study respondents, such as deputy principals and Teachers who may be having classes all week the researcher acknowledges that getting time to conduct interviews may be a challenge. To overcome this problem, the researcher sought to conduct the research in schools at times that was deemed convenient for the affected groups. The researcher in some cases book appointments, conduct research during breaks such as lunch break or games time or where possible weekends. Secondly, the terrain in some parts of Bungoma County especially Mt Elgon region was difficult to navigate, and the study team used boda boda (motorcycle taxi) to reach some destinations. This mode of transport was not only be risky but also limited the number of people that can be transported at once.

3.10 Ethical considerations

The researcher sought permission from the Department of Emergency Management Studies after presenting his proposal. The researcher then waited for the Board of graduate school to give permission to conduct the research by giving the letter. The Researcher used the latter to apply for the permit from NACOSTI. Once the permit was the researcher sought authorization from the county commissioner and county director of education in Bungoma county to further seek permission for data collection. In the field, the researcher ensured that the identity of the respondents is protected. In the event that

some students were expected to participate in the study are minors, a written consent letter was issued to persons in charge of the minors. The research adhered to the principles of confidentiality and anonymity, voluntary participation and harmlessness as well as informed consent.

CHAPTER FOUR: THE NATURE AND EXTENT OF DEVIANT BEHAVIOR AMONG STUDENTS IN SECONDARY SCHOOLS

This chapter begins with the presentation of key demographic information of respondents that gave insight on the nexus between deviant behavior among students and recurrent of fire disasters in public secondary schools within Bungoma County, for instance, how old are you? your gender, class of the student, type of school. The chapter also provides forms of deviant behaviors experienced in schools, nature of indisciplines in schools, causes of deviance among students, types of commonly abused drugs and substance, students with rogue behaviors influencing others, extent of rogue students influencing others. Finally, it ends with chapter summary.

4.1 Demographics Information

The study sought to examine the demographic characteristics of respondents in terms of gender, age, form and type of school.

4.1.1 Gender of the students

The study sought to find the gender of the students. The results are as shown in Table 4.1

Table 4.1 Gender of the students

	Frequency	Percent	Cumulative Percent
Male	222	57.8	57.8
Female	162	42.2	100.0
Total	384	100.0	

Source: Field data, 2023

The findings in Table 4.1 reveals that male were 222(57.8%) while female were 162(42.2%). This shows that majority (57.8%) of the respondents were male thus translating that male are the mostly affected in terms of deviant behavior and school fires. This gives a fair representation of both gender. This is in line with the education trend in Kenya where there are more male students' enrollments in secondary schools than female students.

4.1 2 Age of Students

The researcher sought to find out the age bracket of the student respondents. The findings are as shown in Table 4.2 .

Table 4.2 Age of Students

	Frequency	Percent	Cumulative Percent
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13-15	65	16.9	16.9
16-18	244	63.5	80.5
18-20	75	19.5	100.0
Total	384	100.0	

Source: Field Data 2023

The study findings in Table 4.2 shows that 13-15years of respondents were 65(16.9%), 16-18years were 244(63.5%) and 18-20years were 75(19.5%). These findings reveal that majority of the respondents were aged between 16-18years. The results indicate that majority of the respondents were mature to understand and answer the questionnaires appropriately in regards to student deviant behavior and recurrent fire disasters in schools within Bungoma County.

This study findings reveals that the age group for student engaging in deviant behaviors especially drug and substance abuse ranges from 14-18years. This was supported by Bachman *et al*,(2000) in King`endo (2010) conducted a monitoring study tracking the prevalence of adolescent substance use among American eighth, tenth and twelfth grade students each year from the mid-1970s in to the twenty first century. From this study, it was found that, in 2000 more than half (54%) of American high school seniors reported using some type of illicit drug in their lifetimes. According to the NACADA (2012) survey on the rapid situation assessment of the status of drug and substance abuse in Kenya, it is of concern that there is a decline at the age of which respondents revealed their initiation in to drugs, the data for those aged 10-14 year old show an increase from 0.3% in 2007 to 1.1% in 2012 for those reporting ever using bhang. This increase was recorded among rural, male, in school and low economic status categories. Thus, the

findings shows the essence of examining age among the respondents to reveal the link on deviant behaviors.

4.1. 3: Class of the Student

The researcher examined the class to which the respondents were in. The results are as presented in Table 4.3.

Table 4.3: Form of the respondent

	Frequency	Percent	Cumulative Percent
Form 1	20	5.2	5.2
Form 2	40	10.4	15.6
Form 3	137	35.7	51.3
Form 4	187	48.7	100.0
Total	384	100.0	

Source: Field Data, 2023

The results in Table 4.3 reveals that form one were 20(5.2%), form two were 40(10.4%), form three were 137(35.7%) while form four were 187(48.7%). These findings shows that cumulatively 324(84.4%) of the respondents were form three and form four. The study therefore, implies that form three and form formed majority of the respondents as they had stayed long in school thus having more experience and understanding of the issues under investigation.

4.1.4 Type of School of the students

Table 4.4 Type of school of the students

	Frequency	Percent	Cumulative Percent
--	-----------	---------	--------------------

Boys Boarding	175	45.6	45.6
Girls Boarding	108	28.1	73.7
Mixed day	27	7.0	80.7
Mixed Day and Boarding	74	19.3	100.0
Total	384	100.0	

Source: Field Data, 2023

The findings in Table 4.4 show that respondents from boys boarding were 175(45.6%), girls boarding were 108(28.1%), Mixed day were 27(7%) while mixed day and boarding were 74(19.3%). The results indicate boys boarding were the majority of the respondents followed by girls boarding then mixed day. The findings can be adduce that most boys boarding school were affected by deviant behavior and fire disasters.

These findings were supported by an interview with chief;

We have a big problem on the issues of drugs in most day schools. Some come from home drunk and influencing others. Teachers have no control over students especially when they go back home. Most homesteads or neighbors you will find are brewing alcohol thus making it easier for them to access. Sadly, parents pay fees through sale of alcohol thus it's a big problem. But in boarding schools, atleast teachers monitor the students closely.(Interview with chief, 11.05.2023)

During the interviews, almost all informants agreed that;

Mixed day schools have more problems compared to boarding schools. In mixed day schools issues of relationships and threats to teachers are common. Others stated that, boys boarding experiences indiscipline cases as some put of lights, drug abuse sneaking out and bullying others (interview with deputy principals on 10.5.2023).

On the contrary, an interview with Redcross official revealed that;

Mostly boarding schools especially girl schools are the worst. The girls are unpredictable and when they decide to go rogue, or demonstrate, they destroy all (interview with redcross official, 11.05.2023)

The findings were further supported by Maithya (2009) who stated that, there is a significant relationship between drug abuse and the category of school a student attended. Mixed schools have more cases of drug abuse than girls or boys schools. He also found out that mixed schools have internal problems that are related to substance abuse among students. Girls` schools did not show alarming drug abuse problems, but boys` schools did. This implies that the peer influence among girls and boys in mixed school is higher than they were in girls or boys alone.

4.2 Nature of the deviant behavior among students

The study sought to establish whether the students deviance have increased in schools. The findings are as presented in Table 4.5

Table 4.5: Nature and extent of deviance behavior

Nature and extent of deviant behavior	Frequency	Percentage
Increased drug and substance abuse	123	32%
Increased theft cases	109	28.4%
Increased Riots	23	6.0%
Increased fire incidences/damages	76	19.8%
Increased sneaking out	53	13.8%
Total	384	100%

Source: Field data, 2023

The results of the study revealed that out of 384 students, 123(32%) had been involved in drug and substance abuse, 109(28.4%) had experienced theft cases, 23(6%) had experienced riots, 76(19.8%) experienced fire incidences/damages and sneaking out 53(13.8%) indicated various nature and extent of deviance behaviors.

4.2.1 Cases of indiscipline in school

The study examined the cases of indiscipline in school within Bungoma County. The results are as presented in Fig 4.1.

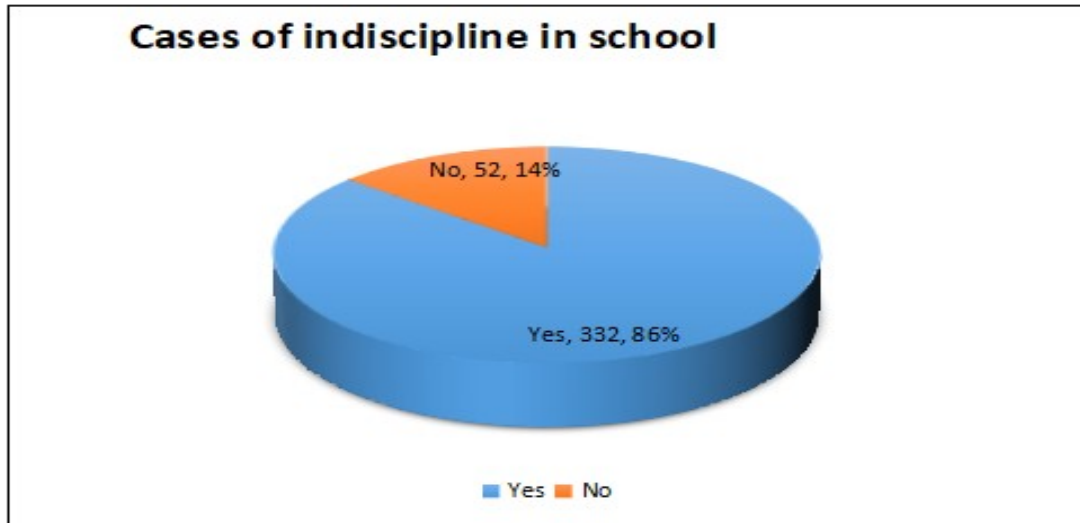


Fig 4.1 Cases of indiscipline in Schools

Source: Field Data, 2023

The results in Fig 4.1 indicate that respondents who agree that there are cases of indiscipline in school were 332(86%) while those who said No were 52(14%). Majority of the respondent (86%) agreed that there are cases of indiscipline in schools while the few who said no can be attributed to form one who have not stayed long in school to have an experience of such cases in school.

These findings were supported by key informant interviews with chiefs, boarding masters, G & C, BOM, PTA among others;

We deal with different students who take bhang, alcohol. They are these leaders who train their fellows to use drugs. There's a school student who was found with rolls of bhang. Community provide bhang to students because they need money. Atleast 2-3 cases a week are witnessed. Illegal items are found with students such as sim cards, civilian cloths, night dresses (Interview with key informants, 13.05.2023)

The findings were also in line with FGDs discussions;

Students do communicate with outsiders. Cases of lesbianism in schools are common. Some girls even come with issues of lesbianism that influences others. Theft cases are common among students e.g pocket money, shopping. For cases of lesbianism, some two girls were suspended for two weeks. Students are used to phones thus sneak in phones. (FGD, 15.05.2023)

This was further supported by key informant interviews with guidance and counselling teachers in all schools;

Most students from single parent hood have exhibited some forms of indiscipline cases, they are easily influenced by others and engage in drug and substance abuse. Teenage are left alone when a parent goes to Saudia Arabia, they just receive money which they use to buy drugs. Family backgrounds have also affected the behaviors of students. (Interview with guidance and counseling teachers, 13.05.2023)

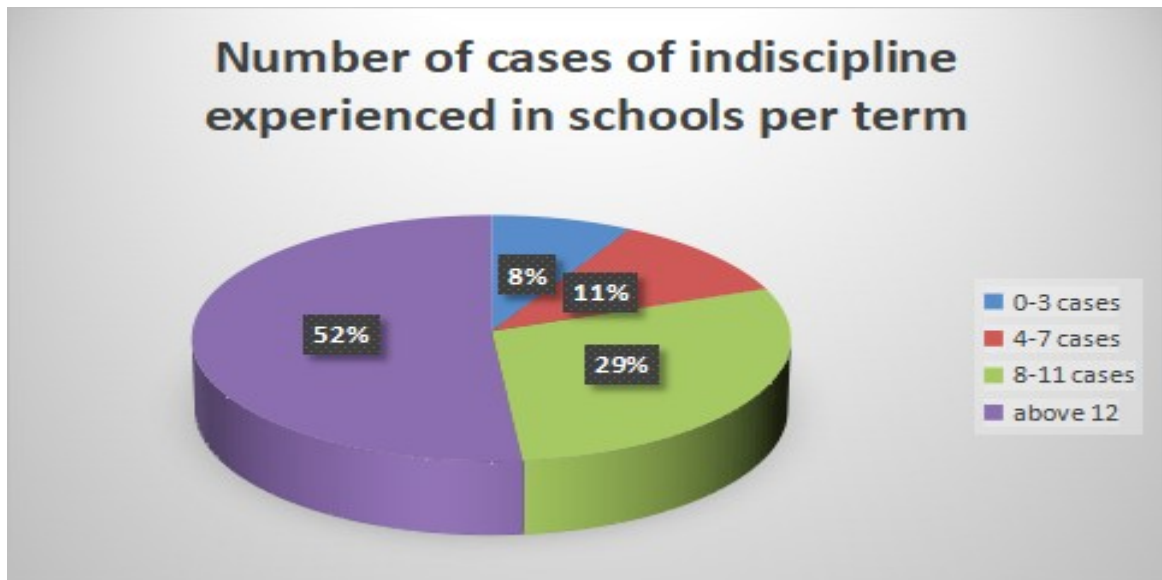
Deviations are marked by violation of social norms, moral norms, cultural values, the process of assimilation, and in the reproduction of values and norms. It may stem from a

single action by an individual that does not meet set out social norms. E.g. the criminalization of society, divorce, corruption of officials etc. The concepts of norm and deviation are socially defined (Shaffer, 2009). In medicine, aberrant behavior relates to deviation from generally accepted norms that guide interpersonal interactions. Within the framework of mental health and frontier state, these actions, acts, statements describe forms of neuropsychiatric pathology (Goode, 2016). In psychology, deviant behavior is defined as a deviation from socio-psychological and moral norms (Goode, 2016). Deviations are characterized by violation of socially accepted norms that cause damage to individuals themselves, public welfare, and their surroundings.

According to Lapinski and Rimal (2005), human behavior may deviate either positively or negatively from socially acceptable norms. Positive deviance occurs when one's conduct does not harm anyone and appears as non-conformity. Negative deviance disorders established social systems and usually results in violence and crime. Positive deviance relates to creativity that brings positive changes to a society, whereas negative deviance is destructive and does not bring anything positive to a society whatsoever (Lapinski & Rimal, 2005; Steinberg & Morris, 2001).

4.2.2 Cases of indisciplines experienced in school per term

The study sought to examine the extent of indiscipline cases by looking at the number of cases of indisciplines experienced in schools per term. The findings are as presented in Fig 4.2



Source: Field Data, 2023

The findings in Fig 4.2 reveal that 31(8%) of the students said 0-3 cases of indisciplines are experienced per term in school, 43(11%) of the students said 4-7 cases, 112(29%) said 8-11 cases while 198(52%) of student said above 12 cases. This implies that majority of the students greed that cases of indiscipline are high every term in schools.

Kinyanjui (1978) too relates school indiscipline to several reasons the most common of which are: the quantity and quality of food and uniforms; shortage and quality of teaching staff; the structure of authority; and, disciplinary machinery. This is in agreement with other scholars such as Mathu (1996) and Mito (1996). According to Makinde (1999:18) acts of indiscipline rampant in schools are sadly a replication in small forms of what is happening in society. This is in agreement with other scholars such as Kombo (1998:123) who concludes that children who have grown up surrounded by violence see this as a permanent way of life and alone, frightened, bored and frustrated, they will often choose to be deviant.

The study findings were supported by Dishion *et al*, (1999) who opined that some school risk factors that can influence students to drug and substance abuse are: inappropriate classroom behaviour such as aggression and impulsivity, academic failure and poor social coping skills . King’ala (2000) noted that how the school administration manages student`s affairs may lead to drug abuse. High handedness, harsh treatment, lack of freedom and student`s failure to have their grievances addressed creates stress which can lead to abuse of drugs.

4.3 Deviant Behaviors Experienced in School

The study sought to examine type of deviant behaviors experienced in schools within Bungoma county. The results are as presented in Fig 4.3.

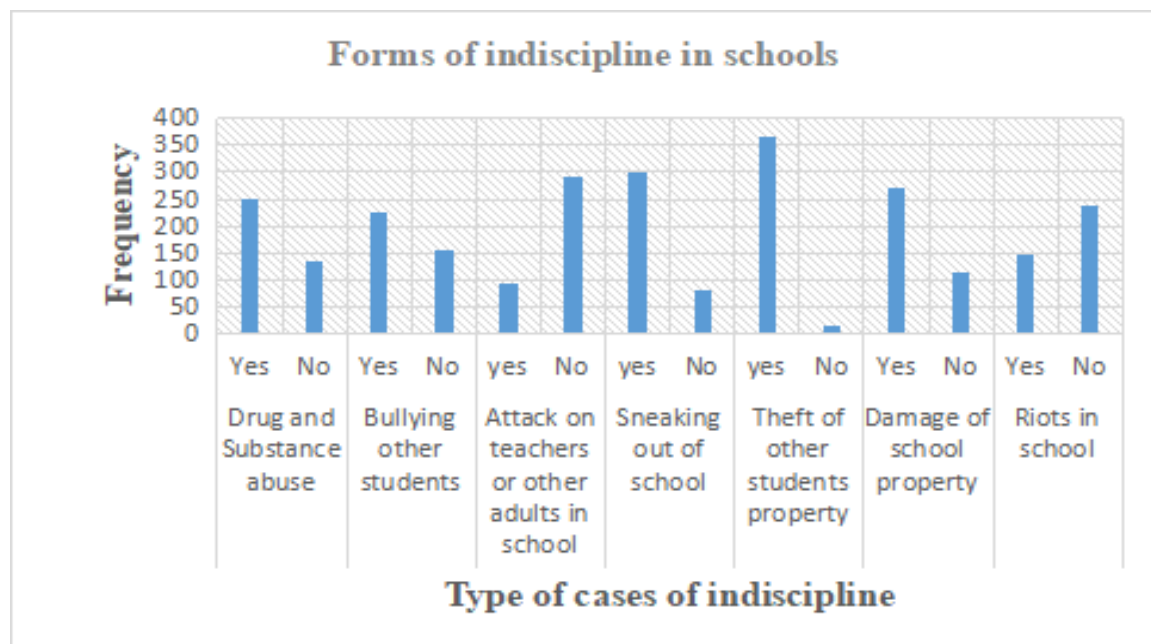


Fig 4.3 Deviant behavior experienced in school

Source: Field Data, 2023

The findings in Fig 4.3 reveal that respondents who said drug and substance abuse were, 249(64.8%), bullying other students were 227(59.1%), attack on teachers were 94(24.5), sneaking out of school 301(78.4%), theft of other students property were 363(95.6%), damage of school property 271(70.6%) while riots in school were 147(38.3%). The results indicate that theft of other students property (95.6%) was the most form of deviant behavior among students followed by sneaking out of school 78.4% and thereafter, damage of school property at 70.6%. The least experienced form of deviant behavior was attack on teachers or other adults at 24.5%. The study, therefore, concludes that most of the schools have experienced forms of deviant behavior among students which might have led to recurrent fire disasters in schools.

These findings corroborate with interview with chief:

I was to meet you at Kibabii but upon reaching, I was called back by deputy principal of Namwela, the distress call was all about students planning for riots. I had to go back and sort the issue. That's why you had to come along way to this side. Schools around are experiencing high rates of indiscipline starting from drug and substance abuse, especially due to local and cheap brews/alcohol around and neighboring Uganda. We find students with bottles used for petrol. Community provide bhang to students because they need money. Like in Namwela boys, the fences are porous and most times students sneak to bring in bhang, attend disco matanga among others. (interview with chief on 10.5.2023)

Deviant behaviour in secondary level schools continues to be a matter of great concern globally; though it is a more worrying trend in developing countries like Kenya (Adegun, 2013; Masese, Nasongo, & Ngesu, 2012; Carra, Esterle, & Hedibel, 2009; UNODC, 2002). Although deviance as a phenomena varies from one country to another, deviant

acts in a school environment include truancy, drug and alcohol abuse, promiscuity, dodging class, riots, smoking, vandalism, fighting, reporting late for class and insulting, resistance to change, to mention a few (Agboola & Salawu, 2011; Njoroge, Onduso & Thinguri, 2014). These acts negatively influence the learning and teaching process as they undermine the purpose of education (Torrente & Vazsonyi, 2012; Agboola & Salawu, 2011). In secondary schools, deviant behaviour is caused by an interaction of different factors (UNODC, 2005; Brady, 2006; ROK, 2006; Simatwa, 2012). Hirschi (2002) averred that although deviant behaviour may show a small degree of specialization, there is a strong tendency for persons who engage in one type of delinquent behaviour to engage in other types as well.

These were corroborated by Nabiswa *et.al.*, 2016, who stated that interviews conducted on key informants drawn from the County quality assurances officers did confirm prevalence of listed deviant behaviour. There is a tendency to understate their prevalence especially by management out of fear that it would be construed that they have failed in their duties. For instance, one key respondent noted:

“It is lamentable that these cases couldn’t be reported for fear that the quality assurances officers will be seen as not working..... “You know telling you that there are many indiscipline cases portray this office as unable to tame indiscipline...” Theft and promiscuity were common forms of deviancy as per county quality assurance surveys. However, most heads don’t want to expose such out of fear of being seen as ineffective. (Nabiswa *et al.*, 2016).

In view of the dynamism with which deviance occurs together with the diversity in norms governing behaviour due to several groups in modern and complex societies to which schools are part of (Robison, 2014; Marshall & Robert, 2011; Clifton, 2011; UNESCO,

1995), the researcher selected 4% score as a basis of judging severe prevalence of selected types of deviant behaviour within schools of Kimilili Sub County.

4.3.1 Drug and Substance Abuse

The study further interrogated the specific type of drug and substance abuse experienced in schools. The results are as shown in Fig 4.4

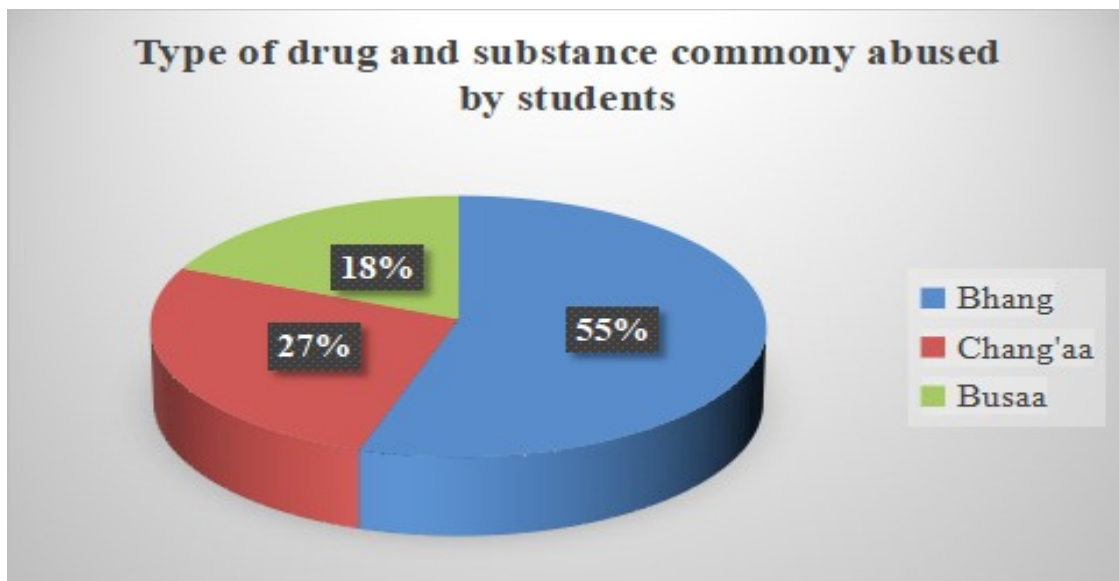


Fig 4.4: Type of drug and substance abuse common in schools

Source: Field Data, 2023

The findings in Fig 4.4 reveal that 211(55%) of students said bhang, 102(27%) of students said chang'aa while 71(18%) of students said busaa. This implies that most students abuse bhang followed by chang'aa and lastly busaa.

This was evident during FGDs and key informant interviews;

Most students engaged in drug and substance abuse especially alcohol and bhang. They go for the locally made

chang'aa which are cheaper. Some have the notion that bhang help them being focus in school and have some level of confidence. This a menace to our school. We are closer to Uganda, some just cross over. Some of use are introduced by fellow students. Even the community members sell to us drugs so we don't struggle getting them... (interview with teachers and FGD with students 15.05.2023.)

During interview with key informants and FGDs, it was evident that most day schools are affected by drugs and substance abuse;

Because students come from within this community, where there are traditional brews, sometimes, some come to school drug... some sneak out to find cheap brews in neighboring Uganda. Bhang and alcohol is common in this area. According to chief, many students are engaging in drugs and substance abuse due to broken families...single headed families are more affected...these students go back home to look for food, money..some even sell drugs to their colleagues in order to get money etc...(interview and FGD, 15/5/2023).

These findings were supported by interviews;

Most students who take drugs tend to believe that, drug gives them courage and confidence in class. And most affected are day scholars. Some even attempt beating teachers and staffs when they have taken drug especially bhang. (Interview with GAC teachers on 17.05.2023)

The study findings were contrary to the study by the National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) in Nairobi reported that alcohol was the most commonly abused substance with 36.3% of students reporting a lifetime use followed by khat/ miraa (31.5%), cigarettes (20.2%), bhang (9.8%), heroin (3.1%), inhalants / glue (2.7%) and lastly cocaine (2.2%) (NACADA, 2010). In another study conducted in a rural secondary school in Kenya, alcohol, tobacco, khat/ miraa and bhang (cannabis) were the most commonly (reported substances of abuse with user prevalence

rates of 5.2%, 3.8%, 3.2%, and 1.7%, respectively (Ndeti *et al.*, 2010). These studies were conducted across the country, however, the current study focused only in Bungoma County hence the contradiction.

Similar findings have been reported by Ndeti *et al.*, (2010) and NACADA (2010) among secondary school students where alcohol, tobacco, miraa / khat and bhang / marijuana were the most commonly reported drugs and substances of abuse. According to NACADA (2007), there is a strong link between alcohol/drug abuse by young people and the breakdown in family values. In the indigenous society, drunkenness was frowned upon.

This misconception is based on the belief that people who use or abuse substances will become bold, confident or courageous. School risk factors that may enhance drug and substance abuse according to Kerachio (1996) include, ineffective classroom management, failure in school performance, truancy, affiliations with deviant peers, peers around deviant behaviour and perceptions of approval of drug using behaviour in the school. Reports of drug abuse among the youth, socially unacceptable sexual adventures, academic underachievement, poor study habits, serious misunderstandings between teachers and students is common in Kenyan educational institutions. These have led to students' expulsions from schools and even students dropping out of school (Republic of Kenya, 2006). Behavioural problems like stress, fatigue, anxiety, bullying and even committing of murder are reported to emanate from drug abuse. In Kenya such instances have occurred, where students under the influence of drugs have beaten up their teachers, raped them or killed fellow students.

4.3.2 Riots in school

The study further interrogated the nature and extent of the riots in school. The students were asked to state how far the riots are experienced in schools. The findings are shown in Fig 4.5

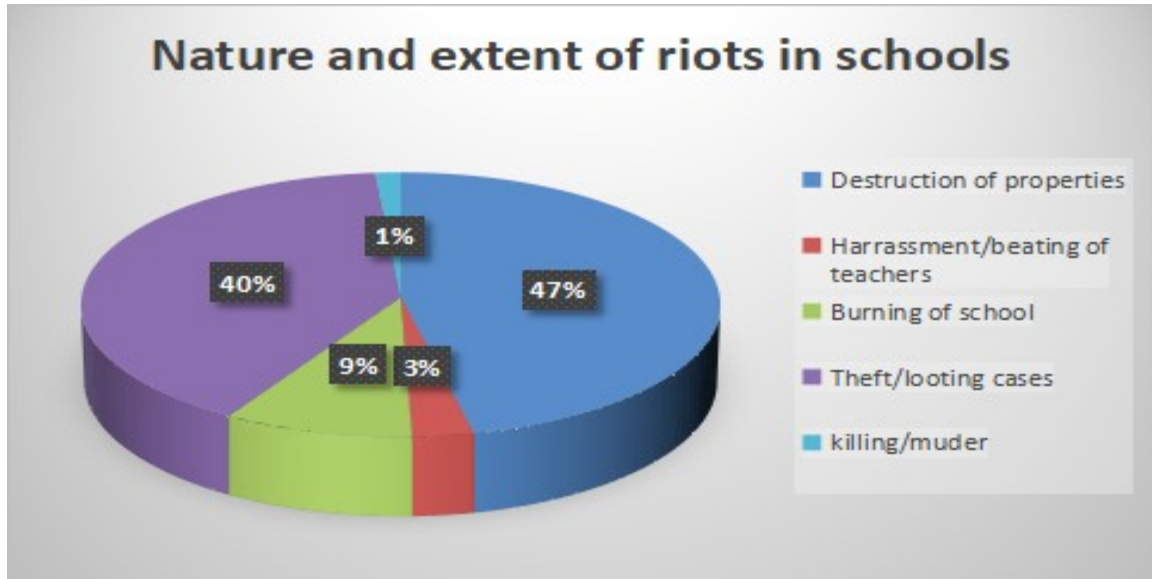


Fig 4.5 Nature and extent of riots in schools

Source: Field Data, 2023

The findings in Fig 4.5 reveal that 174(47%) of students agreed that destruction of properties was the most common form of riots, 150(40%) said theft/looting cases as the second rank extent of riots, followed by 34(9%) who said burning of school, 11(3%) said harrassment of teachers while 5(1%) said killing or muder of fellow students or teachers. This implies that riots mostly take the form of destruction of properties followed by theft cases.

These findings were corroborated by interview with OCPD and teachers;

Some students inciting others due to several issues e.g scouts boycotted raising of flags. Also, when fees are increased in schools, students normally go into riots. Students have gone into rampage when entertainment services are denied. Some set ablaze the schools while others destroy infrastructure. In some incidences, teachers are involved in using/inciting students into unrest especially when they don't want the new administration. Most cases of riots, we have investigated and students arrested. Some do mention teachers during interrogation but fail to mention names. (interview with teachers, OCPD on 18.05.2023)

The findings were in line with interview with teachers both G &C, BOM chair and PTA Chair, boarding masters and deputy principals;

We have had cases where students stage riots leading to damage of properties, they mostly target window panes, dinning all, they destroy dormitories and even books in the library. At sometimes, its more violent leading to death of fellows students and even worst cases teachers, especially when they hate that teacher. Hassarassment has been common mostly among mixed schools, some male students also sexually assault female teachers (interview with key informants)

Accoridng to the Redcross and fire department officer in charge, during an interview, their findings were in line with the study;

Most often we are called by deputy principals that students have staged a riot and almost going rogue...they are seeking our assiatnce in availability of fire engine and support. In many schools around, we have witnnessed riots which have led to great damage, rape among students and even their teachers, some beaten up... its always a mess situation in schools that have gone to riots. (interview with Redcross and fire officer , 14.5.2023)

The findings were further corroborated by observation checklist where debris of damaged properties were observed. The findings on nature and extent of riots is indicated in Plate 4.1



Plate 4.1 Nature and extent of riots at Sikusi Secondary school

Source: Field data, 2023

According to Okumbe (2001) indiscipline among students has its roots in the school, society and in the mind of students. Reports in the media indicate that school children have taken up to violence on their teachers and colleagues (The Standard Newspaper, 10th August, 2015; Kiongo & Thinguri, 2015). Schools today have to deal with the problem of weapons, recruitment into criminal groups, rivalry, drugs and substance abuse, trafficking and youth radicalization. These cases are experienced all over the world with the USA experiencing a higher rate of school crimes compared to Britain and Canada where there is an increase in the use of weapons over the past decade (Afullo, 2005; Kute, 2014). Kenya on the other hand has experienced her share of indiscipline cases in form of arson, sexual assault, rape, theft, sneaking out of school, fighting, absenteeism, vandalism, drug abuse, truancy, lateness, bullying among others (MOE, 1991, Kiongo & Thinguri, 2015).

According to Kinyanjui (1978), strikes do not just happen but they are often a result of continued unresolved problems by the (school) authorities. Kinyanjui noted that there were more strikes in boys' schools than in girls' school and the target is often the head teacher, the school offices and the school property.

The findings were supported by Aluanga, (2008) which stated that where a form three student at Upper hill school in Nairobi died in a fire believed to have been sparked by students' unrest in the institution. Other incidents involving students' unrest include the October 25, 2003 classroom fires at Kinyui Boys Secondary School and the July 19, 2004 incident at Mbiuni High School in Machakos where a student died after colleagues' torched dormitories and classrooms and looted the food store. Whereas, the government of Kenya has always put efforts to stem out the culture of students unrest in schools, the very nature of the unrests have taken a turn for the worse. Such incidences occurring in secondary schools raise doubts on the safety of children in school.

According to Ruto (2009) learning institutions in Kenya have gradually gained notoriety as avenues of sexual assault since the infamous, St. Kizito incident where 70 girls were raped while 19 other lost their lives when their male peers descended on them during what was supposed to be a school strike.

4.3.3 Bullying other students

The study went further to establish nature of deviance by examining the forms of bullying experienced in schools. The findings are as shown in Table 4.6

Table 4.6 Forms of bullying experienced by students

Forms of Bullying	Frequency	Percentage	Ranking
Hitting	41	10.7	4
Kicking	23	6	6
Taking or damaging victims' properties	79	20.6	3
Abusive language	36	9.4	5
Forced to frog match	101	26.3	2
Forced to mob latrines/streets	22	5.7	7
Send to buy bread with one coin	118	30.7	1

Source: Field Data

The study findings in Table 4.6 reveal that 41(10.7%) of students said hitting was common form of bullying, 23(6%) said kicking, 79(20.6%) said taking or damaging victims properties, 23(9.4%) said abusive language. The findings also reveal that 101(26.3%) of students said forced to frog match, 22(5.7%) said forced to mob latrines while 118(30.7%) said send to buy bread with one coin. This findings implies that send to buy bread with one coin was the most common type of bullying followed by forced to frog match, then taking or damaging victim's properties and lastly kicking.

These findings are in line with interview with FGDs;

The previously, there used to be bullying of new students especially young form ones. The leaders take advantage and use us. Sometimes we are forced to ferry water, buy breakfast, brass for them shoes. Though its not rampant as it used to be before. Any items we come with from home, its taken by the big boys...if we don't give then we are punished or forced to wash latrines. (FGD with scouts, 16.05.2023)

During interview with G & C teachers, it emerged that;

Among ourselves, we also bully students, discriminate based on performance, socio-economic background. The worst case, pregnant ladies, are normally bullied by both teachers and students. They are emotionally bullied and socially. Teachers call them names, no fellow student wishes to associate with them. Even the parents disown them. As the GAC teacher, we find it hard to counsel these students. Some even think of committing suicide..(interview with GAC teacher 17.05.2023)

According to Ochura (2014) revealed perceptions of teachers and students on bullying behavior in public secondary schools in Kisumu East District. Ochura found that verbal bullying was the most common type of bullying followed by physical bullying and relational bullying. Further critique revealed that in boys' schools, verbal bullying was the most common at 16.6 % followed by physical bullying at 11.4 %. In girls' schools, verbal bullying was the most common at 11.4 % followed by relational bullying 21 at 8.2 %. In mixed schools, verbal bullying was most prevalent at 39.1 % followed by physical bullying (27.7 %). Verbal bullying remained the most common in the three categories of schools at 67.1 % followed by physical bullying at 45.6 % then relational at 40.5 % and cyber bullying at 18.3 %.

According to Ochura (2014), he further observed that bullying among boys happened in dormitories (52.2 %) followed by classes (13.04 %) play grounds (7.0 %) and along corridors (5.2 %). According to one victim, poorly lit areas around the classes and dormitories were notorious as senior boys waylaid younger ones on their way to the toilets or while moving from one class to another at night. The trend was different among girls with a majority reporting being bullied in class (50.6 %), dormitories (20.0 %), corridors (18.4 %) and finally in playgrounds (12.0 %). Hoffman (1996) found that

overcrowded schools like boarding schools experience peer bullying more than less crowded schools.

A 2017 report described bullying at the country's top schools. Students pulled out of a dormitory at night and frog marched while being beaten; students forced to wake up at night to clean toilets and classrooms while being whipped with belts and hockey sticks; younger boys missing meals due to inadequate cutlery and short mealtimes. These experiences are forms of violence with varying intensities on their effects. However, society is more fixated on student violence than the autocratic nature of institutions and the oppressive structures (Moywaywa, 2022). Until authorities shift focus to the deep negative experiences and anguish in boarding school, the burning is likely going to continue. Students are political actors and conscientious beings with expectations and capacities to act. When dehumanised, students will act, react, or engage, sometimes with protest and intense violence. Kenyan students have learnt that arson is effective as a tactic in protest politics.

4.3.4 Theft of other student's property

The study sought to investigate the nature and extent of theft within the school by looking at the type of materials students steal. The findings are as presented in Table 4.7

Table 4.7: Type of theft cases among the students			
Items being stolen	Frequency	Percentage	Ranking
Toothpaste	65	16.9	4
Cloths	79	20.7	3
Books	37	9.6	5
Shoes	87	22.6	2
Shopping	116	30.2	1

Source: Field Data, 2023

The findings of the study reveal that 363(95.6%) of respondents agreed that there is high theft cases among students to their fellow colleagues. The findings indicate that, theft was the most serious type of deviant behavior experienced in all schools. Further, the study indicated that 116(30.2%) of students said theft of shoppings, 87(22.6%) said theft of shoes, 79(20.7%) said theft of cloths, 65(16.9%) said theft of toothpaste while 37(9.6%) said theft of books. This implies most students have experienced theft of shoppings due to poverty and parenthood.

These findings were further supported by all interviews carried out;

We have witnessed high rate of stealing among students. The items stolen ranges from shopping, cloths and even books. This results from family background. Some when asked states that, parents didn't give them anything thus are forced to find means of survival. Some apportion blame to single parenthood. Every week we must solved so many cases of theft among students. Some steal due to peer pressure and the feeling to belong in a certain class or group.(interview with informants on 15.5.2023).

This was further in line with interview with Redcross, county fire officer, G& C teachers, PTA chair and BOM Chair who opined that;

Most students engage in stealing or theft due to socio economic background of their families. There are high cases of theft especially at the beginning of the term and mid term. My child has been a victim of theft, whereby his box was made butterfly and all shopping stolen. Sometimes we students complain during parents day or visiting about high theft cases. Mostly, the single headed families are the suspects as some can not afford shopping like toothpaste, essential items among others. (Interview with key informants 17.5.2023)

This is concurrent with study done in USA on attitudes and conduct of some 29,760 high school students by Josephson Institute found out that an average of 30% of students admitted to have stolen from a store within the past year (Josephson institute of Ethics, 2009). Subair (1999) in his research reported that stealing was among the three most frequently committed crimes among secondary school students in Botswana. In Kenya, stealing among secondary school students rated very high among the common indiscipline problems as reported by teachers in sampled schools; it accounted for 85% as reported by respondent students and second (81%) in the order of severity (Mbugu, 2005).

4.4 Causes of Deviance in schools.

The study sought to examine the causes of deviance among students within Bungoma County. The findings are as shown in Fig 4.6.

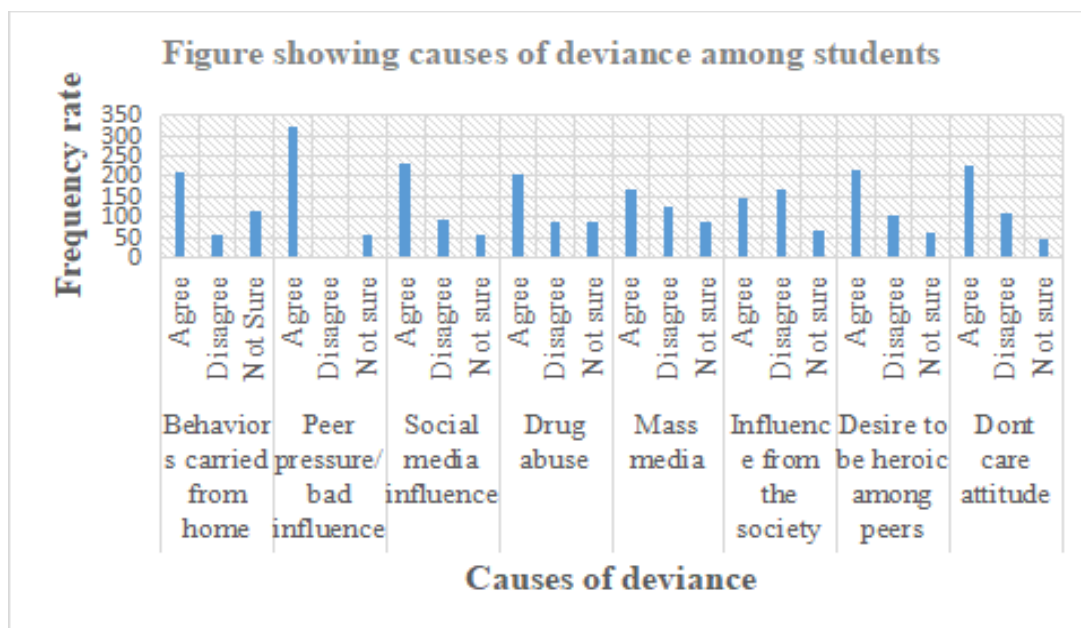


Fig 4.6: Causes of Deviance among students

Source: Field Data, 2023

The findings in Fig 4.6 reveal that 320(83.3%) of respondents agreed that Peer pressure/bad influence make students engage in rogue behaviors, 229(59.6%) agreed on social media influence, 228(59.4%) agreed on don't care attitude, 211(54.9%) agreed on behaviors carried from home while 206(53.6%) agreed on drug abuse. The study also found out that 166(43.2%) disagreed on influence from the society making them engage in rogue behaviors, 128(33.3%) disagreed on mass media, while 115(29.9%) were not sure whether behaviors carried from home influences students to engage in rogue behaviors.

4.1.1 Peer pressure and bad influence

The findings in Fig 4.6 reveal that 320(83.3%) of respondents agreed that Peer pressure/bad influence make students engage in rogue behaviors.

These findings were corroborated by interview with teachers;

Most of these students acquire these behaviors here in school. There is high behavioral influence especially on issues of drug and substance abuse. Because some come with it from home, they easily influence others who are vulnerable. Some upon realizing another school has burnt their school, they also do the same. We have had cases where students sneak out due to bad influence. Some even bring in drugs to schools. (Interview with teachers 17.5.2023).

This was supported by Mwenesi (1996) who stated that peer group member is likely to be the source of information for the drug users about the availability of drugs and their allegeable effects. Initial drug abuse can be influenced by different people including those who first offer the drugs to nondrug user, for example, siblings and friends (Hawkins and Calatano, 1992).

Association with drug-abusing peers is often the most immediate risk for exposing adolescents to drug abuse and delinquent behaviour. However, in an environment with no drug-abusing peers and strong antidrug norms, that child is likely to become a drug abuser (Hawkins and Calatano, 1992). Studies on early risk behaviours in school setting show that aggressive behaviour in boys and learning difficulties in girls are the primary causes of poor peer relationships (Elizabeth, Susan and Suman, 2003). If these behaviours continue, they will likely lead to other risks like early peer rejection and later affiliation with deviant peers which are often the most immediate risks for drug abuse in adolescence (Elizabeth et al, 2003). The role played by peers is twofold. First, most often through peers, illicit drugs are made available since these drugs can seldom be purchased through ordinary means (King'ala, 2000). The peer group may either supply the drug

directly or provide information on obtaining it. Second, the peer group may provide models for drug usage, teaching its members when, where and how to use the drugs.

4.4.2 Drug and substance abuse

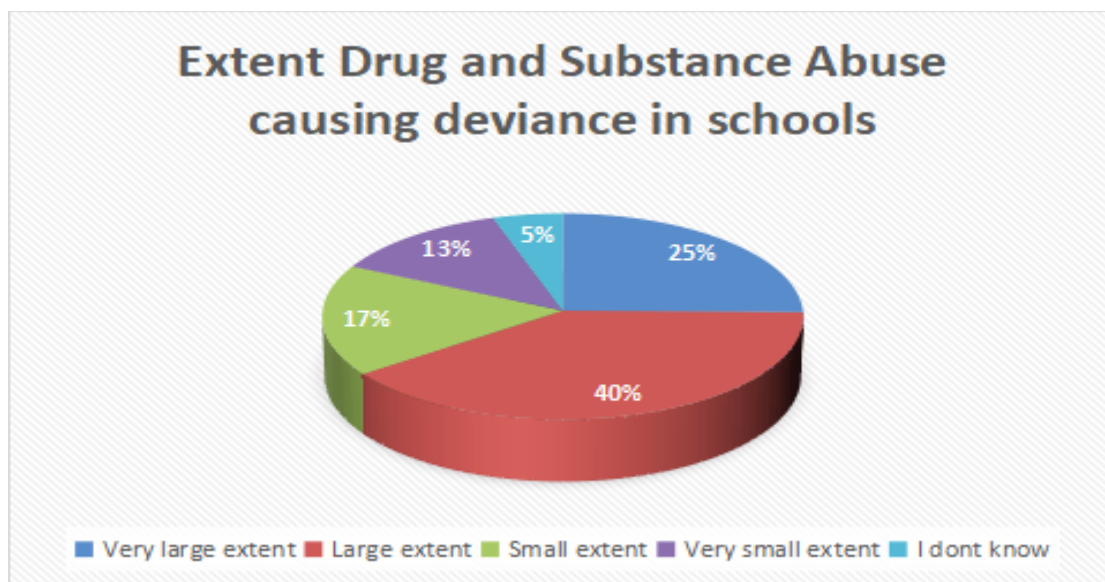
The study findings reveal that 206(53.6%) of respondents agreed on drug and substance abuse .

During interview with teachers and chiefs, informants stated that;

Drug abuse especially alcohol and bhang is very common among students. Due to cheap and local brews around, students collude with outsiders. The community also give students drugs because they need money. The cheap alcohol in Uganda is easily accessible by students. The most affected students on issues of drugs are day scholars who even come to school drug. We have solved several cases related to drugs and sometime suspend students. Some cases, the family background has been a big factor to students engaging in drug. Some homesteads sell alcohol as source of livelihood. (interview with teachers and chiefs 19.5.2023)

4. 4.3 Extent of drug and substance abuse causing deviance in schools.

The study sought to investigate the extent drug and substance abuse causes deviance in schools. The findings are as presented in Fig 4. 7



Source: Field data, 2023

Fig 4. 7: Extent of drug and substance abuse causing deviance in schools

The findings in Fig 4.7 reveal that 97(25%) of students agreed to very large extent, 152(40%) said large extent, 67(17%) said small extent, 49(13%) said very small extent while 19(5%) said I don't know. This implies that cumulatively 65% of students agreed that drug and substance abuse to large extent influences the behavior of students thus leading to deviance.

The study findings corroborated with Kaguthi (2004) who noted that availability of illegal drugs such as heroin, bhang, cocaine and mandrax, together with the availability of legal substances such as cigarettes and alcohol may lead to drug abuse. The ready availability of most drugs appears to be the most important cause of the prevalence of substance use and abuse amongst the Kenyan youth. For instance medicines (drugs) are purchased from chemists even without a physician's prescription. Kithi (2007) supports this by stating that addicts are reported to visit chemists to get close of Roche- a drug that should strictly

be sold on prescription in Lamu town. Kaguthi (2004) established that widely used substances are grown in the country like Bhang, Khat (miraa) and Tobacco. As these substances are grown, manufactured and distributed, they are openly exposed to the youth. Cheap and unclean alcohol like Chang'aa is readily available among students from the poor population.

The study findings were further supported by a survey by the National Authority for the campaign against alcohol and Drug Abuse (NACADA) on rapid situation assessment of the status of the drug and substance abuse in Kenya (2012), drug accessibility was found to be one of the major contributing factors of drug abuse in Kenya. Traditional liquor being the most easily available type of alcohol followed by wines and spirits and Chang'aa. Chang'aa was found to be easily accessible in Western, followed by Nyanza and least accessible in Northern Eastern. Traditional liquor was found to be most accessible in coast followed by western and least accessible in North Eastern. Wines and spirits were found to be most accessible in Nairobi followed by Central and least accessible in North Eastern. Kuber was found to be easily accessible in Nyanza followed by Nairobi and least accessible in Central. Miraa (Khat) was most accessible in Nairobi and least accessible in Nyanza. Bhang was found easily accessible in Nairobi and least accessible in North Eastern. Cocaine and heroin were most accessible in Coast region and least accessible in North Eastern. Of major concern from the NACADA (2012) report is the decline in age at which the respondents revealed their initiation into drugs, the data for those aged 10-14 years olds showed an increase from 0.3% in 2007 to 1.1% in 2012 for those reporting ever using bhang. This was recorded among rural, male, in school and low economic status categories. In Bungoma East District, for instance NACADA (2012)

established that as many as 50% households are involved in brewing, buying and reselling of brews, thus increasing access to alcohol by children.

In Kenya, a study by the National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA) in Nairobi reported that alcohol was the most commonly abused substance with 36.3% of students reporting a lifetime use followed by khat/ miraa (31.5%), cigarettes (20.2%), bhang (9.8%), heroin (3.1%), inhalants / glue (2.7%) and lastly cocaine (2.2%) (NACADA, 2010). In another study conducted in a rural secondary school in Kenya, alcohol, tobacco, khat/ miraa and bhang (cannabis) were the most commonly reported substances of abuse with user prevalence rates of 5.2%, 3.8%, 3.2%, and 1.7%, respectively (Ndeti *et al.*, 2010).

Similar findings have been reported by Ndeti *et al.*, (2010) and NACADA (2010) among secondary school students where alcohol, tobacco, miraa / khat and bhang / marijuana were the most commonly reported drugs and substances of abuse. Drug and substance abuse have far reaching ramifications, for instance, according to the survey by NACADA (2012) with a sample of 632 children, it was found out that 6% have ever engaged in sex while on drugs (7.3% for boys and 4.4% for 23 girls). The median age at sexual debut being estimated at 11 years. An assessment of the situation during the first sexual intercourse indicates that 30% had sex unwillingly. Further, about 20% were given incentives to lure them in to sexual act, with a further 8% reporting having taken drugs before their first sexual encounter. This early introduction into illicit sex goes a long way in impacting negatively on their self-esteem, exposing them to dangers of early pregnancy contracting STIS and AIDS, declining academic performance and ultimately dropping out of school altogether (Maithya, 2009).

4.4.4 Mass Media

The study findings reveal that 166(43.2%) of respondents agreed that mass media causes deviance behavior among students. This was supported by Shaw, (2007), he stated that in a country's development, the mass media helps to influence and educate people positively. However, when substance abuse is highlighted and glorified through publications, televisions, radios, electronic media and on-line, drug dealers and drug abusers often find opportunities to discover the latest sources of the drug. In Kenya, for instance, Mombasa city has been highlighted as a major drug destination hopefully to discourage and show the situation at hand.

4.4.5 Societal influence

The study findings reveal that 149(38.8%) of respondents agreed that societal influence causes deviant behavior among students while 166(43.2%) disagreed. These findings were supported by Sherif (2005) who stated that aberrant behavior can be regarded as a choice between socially acceptable and deviant ways of achieving set goals. For example, when trying to get rich or attain success (as defined by oneself), one may choose unacceptable means e.g., bullying others or even engaging in criminal activities (Dwyer, 2016). Others may portray open disobedience, protest, reject widely accepted social values including moral and legal laws, and unite in participating in various criminal, terrorist or other extremist groups. Therefore, they choose to combat the society they live in rather than try to fit in (Graham, 1988; Hall & Hayden, 2007; White, 2016). In all these cases, the aberration results from a complete or relative failure of socialization i.e. the inability or reluctance of individuals to adjust to society and its requirements, Deviant

behavior by teenagers includes antisocial, delinquent, wrongful, aggressive, self-destructing, and suicidal acts. These acts may lead to various abnormalities in personal development. Often these deviations include children's reactions to the difficult life circumstances (Wolfe, Marcum, Higgins & Ricketts, 2014). This condition often ranges from facets of disease to norm. Therefore, it should be evaluated by both a teacher and a doctor.

The causes of deviant behavior are related to conditions of upbringing, peculiarities of physical development and one's social environment. The teenager, evaluating his or her body, takes note of the norm, his physical superiority or inferiority, and comes to a conclusion about his or her social significance and value (Berdibayeva, Garber, Ivanov, Satybaldina, Smatovad & Yelubayeva, 2016). A child may either have a passive attitude to his or her physical weakness, or a desire to compensate for deficiencies, or a willingness to eliminate them by physical exercise. Sometimes delays in the development of neuro-muscular function disrupts coordination of movements and manifests as clumsiness.

4.4.5 Desire to feel heroic among peers

The study findings show that 215(56%) of respondents agreed that desire to heroic among peers was a cause of deviance while 104(27.1%) disagreed. During the interviews with teachers, majority stated that;

Children with abnormal behavior in society, in most cases, reside in families where either there is no second parent, or this social cell is dysfunctional, therefore, they need special assistance to coordinate their behavior. Some students do it

in order to feel they belong to certain group. (Interview with teachers 14.05.2023)

The findings from this study were in agreement with a similar study by Davies (2009) and Apondi (2010) whose studies indicated that students steal for desire to fit in a peer group. Peer group was mentioned most in Chwele Girls which is a pure boarding Girls school followed by Butonge Boys Secondary school. Majority of Students in boarding schools mentioned peer pressure as the cause of stealing.

4.4.6 Social Media

The study findings reveal that 229(59.6%) agreed that social media influences their deviance. This finding were supported by Muia (2016) did an inquiry into social media and its link with the behaviour of deviance. The focus of this undertaking was on the students at the secondary school level within the county of Nairobi. The study did not some prevalence of social media among the school going children which stood at 90%, largely among the students in form one and in form, three, the prevalence stood at 98%. The highly adopted and used platform of social media noted by the inquiry was WhatSapp. It was noted that due to use of stoical media, the sexual activities of the school going students were highly affected. The implications raised by the inquiry were the need for the government to control the use of social media among school going students.

4.5 Students with rogue behaviors influencing others

The study sought to examine the influence rogue students have towards others in schools. The Findings are presented in Fig 4.8.

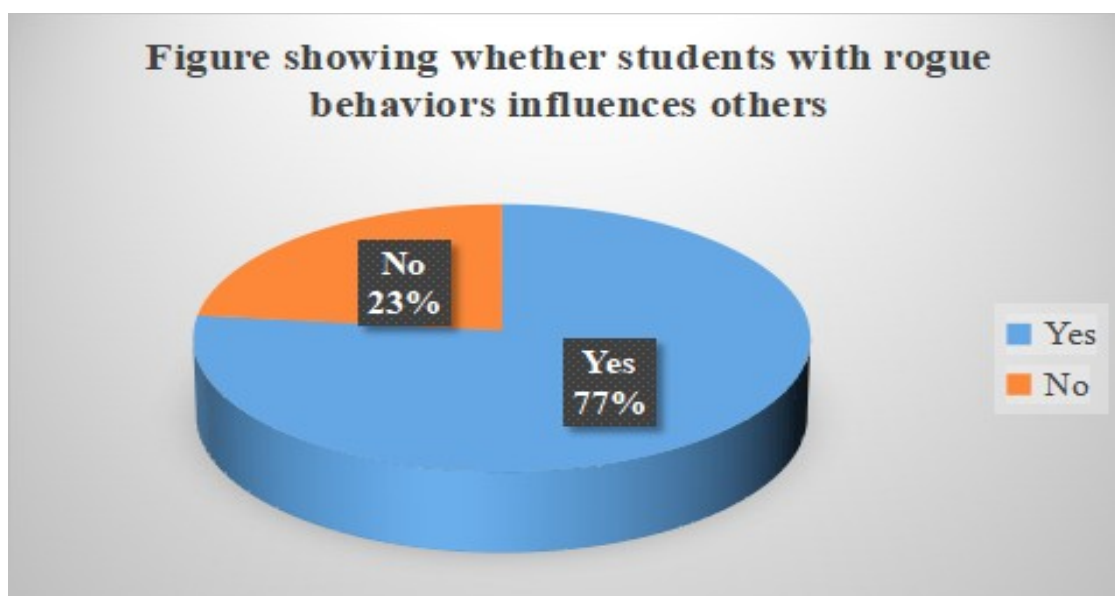


Fig 4.8 Students with rogue behaviors influencing other students

Source: Field Data, 2023

The study findings in Fig 4.8 indicate that 295(77%) agreed that students with rogue behaviors influences other students while 89(23%) disagreed. This implies that majority of respondents are influenced by their peers who have rogue behaviors thus engaging in deviance act in schools.

These findings were supported by interviews with chiefs;

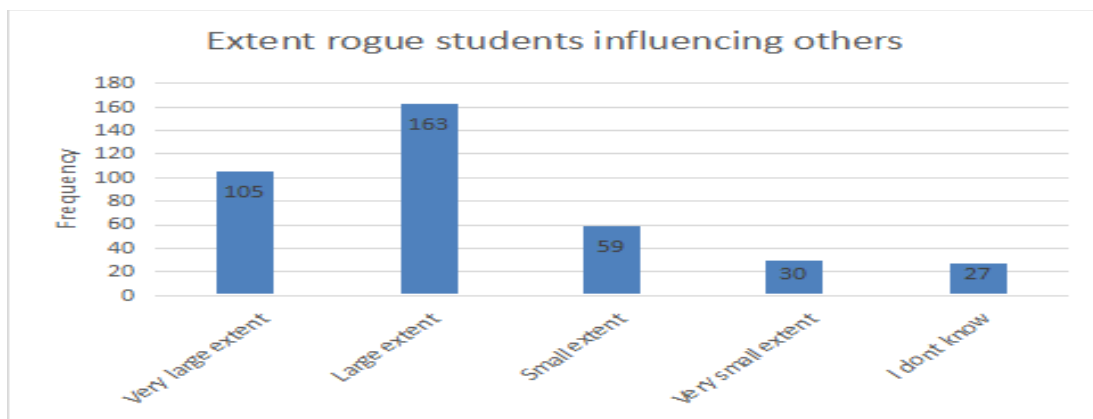
Most students who uses drugs do influence their fellows. This trend has been witnessed especially in mixed day schools. Even in boarding schools, some times we are called to go solve the problem of students sneaking in drugs. Whereby students collude with outsiders. Some times, especially in the rural areas, the issues of disco matanga, the local students normally influences their fellows to attend... the local brews and cheap alcohol across Uganda border has created a great problem. (Interview with chiefs 14.05.203)

Muthigani (1995) conducted studies on the issue of drug use and abuse and agreed that there is significant relationship between the subject's drug using behaviour and

involvement of their friends in drugs. According to him, if an adolescent associates with other adolescents who use drugs, the risk of involvement with drugs is further increased. Another survey of youth in Southern Nigeria, also found out that the source of drugs for drug using-students was friends in the same or neighbouring schools, and students who reported using drugs had more drug using than abstinent friends (Imbosa, 2002).

4.5.1 Extent students with rogue behaviors influencing others.

The study sought to examine the extent students with rogue behaviors influences the bahviors of their fellow students. The findings are as presented in Fig 4.9



Source: Field Data, 2023

Fig 4. 9 Extent rogue students influencing behaviors of other students.

The findings reveal that 163(42.4%) of students saidn to large extent, 105(27.4%) said very large extent, 59(15.4%) said small extent, 30(7.8%) said very small extent while 27(7%) said I don't know. This implies that cummulatively 69.8% of the students agreed that students with rogue behaviors influences other students to join them in their behaviors.

This was in line with key informant interview with teachers;

Some students who have formed habit of inducing their fellows to their behaviors are mostly found in form three. We have students who have bad behaviors carried from home while others influenced by the community, influencing their fellow colleagues. Some who take drugs and substances normally have the tendency of inducing others, especially the non performing students who want to feel they belong to certain group. The poor students also easily get trapped in this induction and influence. (interview with teachers, 19.05.2023)

The study findings were corroborated with the United Nations (1992), drug users, like other people seek approval of their behaviour from whom they attempt to convince to join them in their habits as a way of seeking acceptance.

4.6 Chapter Summary

The study revealed that male were 222(57.8%) while female were 162(42.2%). This showed that majority (57.8%) of the respondents were male thus translating that male are the mostly affected in terms of deviant behavior and school fires. The study revealed that 13-15years of respondents were 65(16.9%), 16-18years were 244(63.5%) and 18-20years were 75(19.5%). These findings reveal that majority of the respondents were age group 16-18years. This indicates the ideal age for secondary students. The results indicate that majority of the respondents were mature enough to understand and answer the questionnaires appropriately in regards to student deviant behavior and recurrent fire disasters in schools within Bungoma County.

The study revealed that form one were 20(5.2%), form two were 40(10.4%), form three were 137(35.7%) while form four were 187(48.7%). These findings show that

cumulatively 324(84.4%) of the respondents were form three and form four. The findings showed that respondents from boys boarding were 175(45.6%), girls boarding were 88(22.9%), Mixed day were 76(19.8%) while mixed day and boarding were 45(11.7%). The results indicate boys boarding were the majority of the respondents followed by girls boarding then mixed day.

The findings indicated that respondents who agree that there are cases of indiscipline in school were 332(86%) while those who said No were 52(14%). Majority of the respondent (86%) agreed that there cases of indiscipline in schools while the few who said no can be attributed to form one who have not stayed long in school to have an experience of such cases in school.

The findings revealed that respondents who said drug and substance abuse were, 249(64.8%), bullying other students were 227(59.1%), attack on teachers were 94(24.5), sneaking out of school 301(78.4%), theft of other students property were 363(95.6%), damage of school property 271(70.6%) while riots in school were 147(38.3%). The results indicate that theft of other students property (95.6%) was the most form of deviant behavior among students followed by sneaking out of school 78.4% and thereafter, damage of school property at 70.6%. The least experienced form of deviant behavior was attack on teachers or other adults at 24.5%.

The findings revealed that respondents who said drug and substance abuse were, 249(64.8%) while those who disagreed were 135(35.2%). The findings revealed that 147(38.3%) of respondents agreed that students go on riots while 237(61.7%) disagreed. This shows that majority of schools never go into riots. The study findings revealed that 227(59.1%) of respondents agreed that there are bullying in schools. The findings of the

study revealed that 363(95.6%) of respondents agreed that there is high theft cases among students to their fellow colleagues.

The findings revealed that 320(83.3%) of respondents agreed that Peer pressure/bad influence make students engage in rogue behaviors, 229(59.6%) agreed on social media influence, 228(59.4%) agreed on don't care attitude, 211(54.9%) agreed on behaviors carried from home while 206(53.6%) agreed on drug abuse. The study also found out that 166(43.2%) disagreed on influence from the society making them engage in rogue behaviors, 128(33.3%) disagreed on mass media, while 115(29.9%) were not sure whether behaviors carried from home influences students to engage in rogue behaviors.

The findings reveal that 97(25%) of students agreed to very large extent, 152(40%) said large extent, 67(17%) said small extent, 49(13%) said very small extent while 19(5%) said I don't know. This implies that cummulatively 65% of students agreed that drug and substance abuse to large extent influences the behavior of students thus leading to deviance.

The findings reveal that 163(42.4%) of students saidn to large extent, 105(27.4%) said very large extent, 59(15.4%) said small extent, 30(7.8%) said very small extent while 27(7%) said I don't know. This implies that cummulatively 69.8% of the students agreed that students with rogue behaviors influences other students to join them in their behaviors. The section discusses findings on specific objective two, chapter five.

CHAPTER FIVE: EVALUATE CAUSES OF THE RECURRENT FIRE DISASTERS IN SCHOOLS WITHIN BUNGOMA COUNTY

This chapter discussed findings related to specific objective two which was to evaluate causes of the recurrent fire disasters in schools within Bungoma County. It provides detailed information on whether respondents have experienced fire disasters, fire outbreak in schools, cases of arsons ins chools, number of fire incidences, causes of school fires, factors that make students burn school, possibility of students sneaking out, how students sneak out, impacts of school fires and chapter summary.

5.1 Experienced Fire disasters

The researcher sought to investigate whether the respondents had experienced fire disasters in their school. The findings are as shown in Fig 5.1.

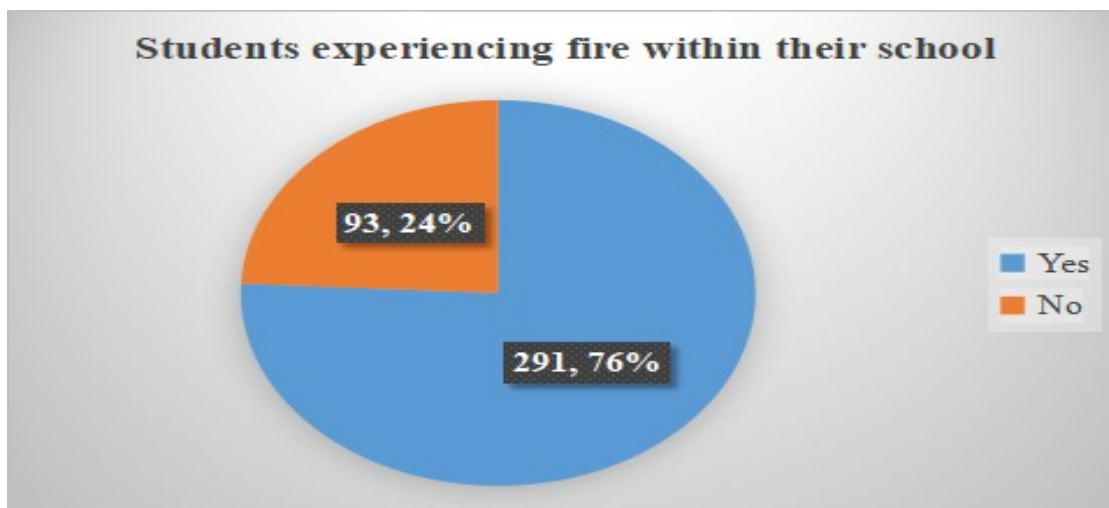


Fig 5.1 Experienced Fire disasters

Source: Field Data,2023

The study findings in Fig 5.1 reveal that 291(76%) of respondents agreed experiencing fire disasters in school while 93(24%) disagreed experiencing fire. This implies that majority of respondents have experienced fire disasters in school attributed to their long stay or the school have history of fire incidences every year. However, the few who disagreed might be form one or new students in the school.

The study findings were supported by the U.S.F.A. (2007) who reported that hotels, boarding houses and boarding schools are susceptible to higher incidences of fire because of carelessness, smoking, candles, and simple ordinary home life activities that are not appropriate for a boarding/hotel type atmosphere. Cooking in electric appliances such as toaster ovens or electric plates, discarding flammable materials such as cigarettes, storing towels and sheets where cleaning supplies are kept are just a few of the causes of fires in secondary schools.

Secondary schools are susceptible to high incidents of fire because of carelessness, faulty electrical installation and even Arson. The Kenya Red Cross Society (KRCS) observes that secondary schools are vulnerable to disasters because of lack of specialized training such as fire drills, lack of appropriate firefighting equipment, lack of adequate resources, lack of systematic disaster mitigation and response mechanisms (GOK, 2008). According to USFADC (2007), fire drills are the largest contributing factor to the safety of the students in school.

Fire cases in schools are common and frequent in Africa. For example, in 2001, fire gutted a girls' school in Gindiri village, Northern Nigeria where twenty-three students lost their lives as the dormitory they were in was locked and fortified with iron bars and a chain. This made it very difficult for students to access escape routes such as doors and

windows that should open outwards and without grills. In 2008, fire gutted Budo School near Kampala and at least 19 girls and two adults died. It was later established that the hostel doors were locked from outside (Mafaranga, 2009).

In Kenya, several fire incidences have been experienced where lives and property has been lost. In 2001, 67 boys perished in a night inferno at Kyanguli School in Machakos County. The dormitory doors had been locked causing a stampede at the door-step. In 2012, 8 girls died in a dormitory at Asumbi Girls Boarding Primary School in Homabay County. The fire could not be put out as the school did not have adequate firefighting equipment (Kaluoch, Ocheing & Yonga, 2012). The above fire incidences and many others that have occurred, depicts how schools are unprepared for fire disasters since many schools do not have firefighting equipment and their occupants are not trained in dealing with the disasters.

According to the Director of Education in her Circular Ref. No. G9/1/169 dated on 10th April 2001 (Republic of Kenya, 2001), there have been a number of incidents of fire and other risk situations in our educational institutions. This made it necessary for the Ministry to review all Health and Safety Standards in all educational institutions, and also provide the relevant guidelines that affect the welfare of students. In the introduction of the above mentioned circular the Director of Education observes that educational institutions in this country are for greater part of the year, home to the majority of students. She further explains that in the last few years, there have been a number of incidents of fire and other health risk situations in the educational institutions.

5.2 Fire outbreak in other schools

The study sought to understand whether respondents have heard of fire disasters in other schools other than theirs. The results are presented in Fig 5.2.

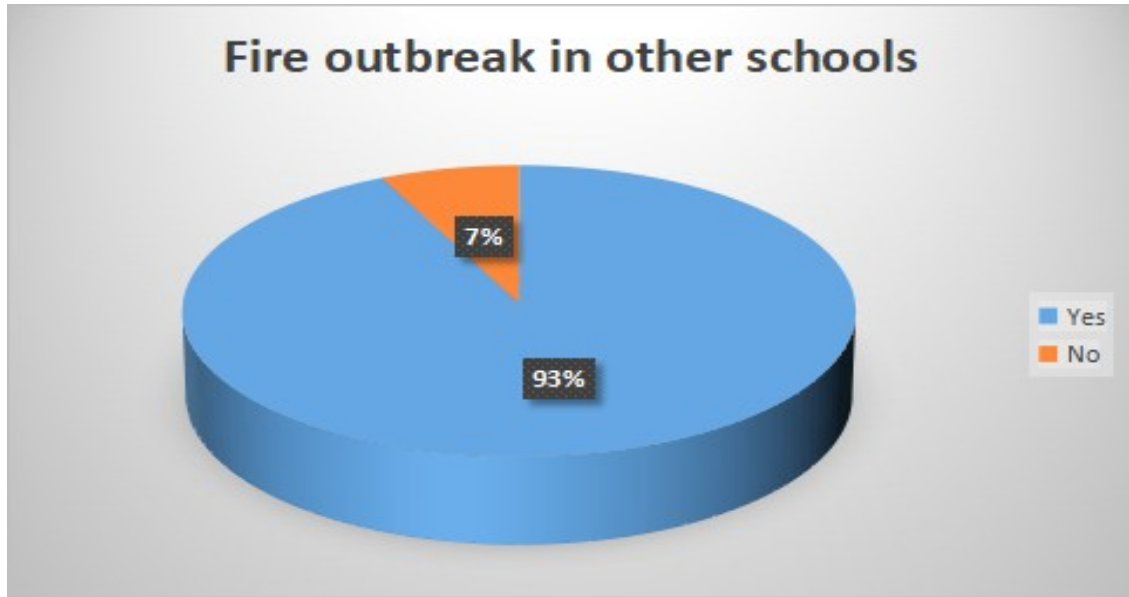


Fig 5.2: Fire outbreak in other schools

Source: Field Data, 2023

The findings of this study shows that, (93%) of the respondents have heard about fire outbreak in other schools while 7% disagreed. This observation was supported by a study in California which showed that increase awareness improves fire disaster preparedness (Sutton and Tierney, 2006). However, less than half of the respondents had experienced fire out break at their previous schools. This means many of the students who did not have past fire outbreak experience may be reluctant to take precautions in preventing occurrence of fire in their college. More than half of respondent said there had been incidences of fire out breaks in their college. This finding agrees with a study conducted in Kenya which showed that fire was the most disaster which had affected learning institutions in Kenya in the past 25 years (Ayonga, 2010).

The study findings were further corroborated by Kishoyian *et al.*, (2021) who opined that the possible types of disasters, majority 215 (64%) said they had not experienced any kind of a disaster while 121(36%) of the respondents stated that they had experienced a disaster while in their previous schools. Similarly, just a few of the participants in both FGDs and KIIs reported that they had experienced a disaster while in their previous schools. Out of those who had experienced a disaster in their previous school, a large number 71 (45.8%) of them said they had experienced fire outbreak at their previous schools. This fact was supported in the FGDs and KIIs; where majority of the participants said they had experienced fire incidences in their previous schools. This meant fire outbreak was the most likely disaster which could strike the schools; meaning with this past experience, only those few students with past fire outbreak experience are likely to demonstrate a certain degree of preparedness.

5.3 Cases of arson in schools

The study further sought to investigated whether respondents have heard of cases of arson among students. The findings are presented in Fig 5.3.

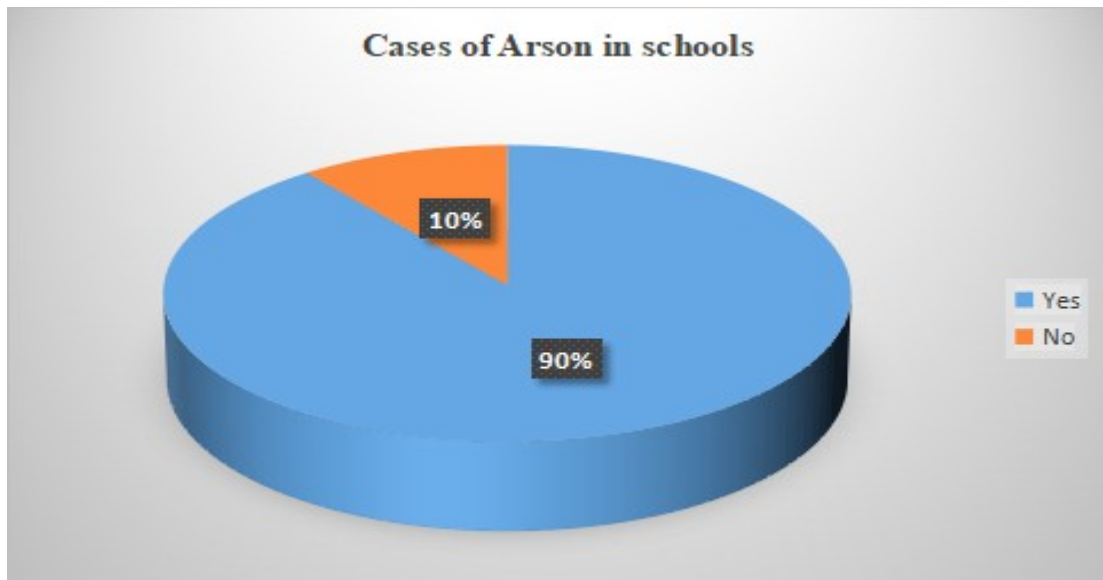


Fig 5.3: Cases of arson in schools

Source: Field Data, 2023

The study findings in Fig 5.3 reveal that 344(90%) of respondents have heard about arson by students while 40(10%) disagreed. This implies that in most incidences, students have been involved in burning of schools. The few respondents who disagreed might mean that they attribute fire incidences to other factors like electric faults.

These findings were supported by interview with OCPD;

We have had cases of arson in schools. Almost all cases of fire in schools have been intentional and done by students. This shows high level of deviance in among students. However, during investigation, we noticed that some teachers are involved but students are being used. Though the students fail to mention the names of individual teachers for fear but all evidences showed students were incited. We have prosecuted some students who were found guilty. They are serving their sentence. Right now, we still prosecuting other girls who are held within our custody. In other instances, the community also have incited the students against the principal or fee increment. Though its hard to exactly identify the parents. Even if students burn, their reasons does not add up meaning they are used by teachers. (Interview with OCPD on 12.5.2023)

This findings were supported by Shibutse *et.al.*, (2014) in her study who showed that in all of the schools that had experienced fire disasters, causes were clearly known. The main causes were noted as arson 42% burning of rubbish 32% and students' unrest 21%. It was reported that in most cases of arson burning of rubbish usually availed the source of the fire. In one incident a student got fire from the burning rubbish used it to light fire on a hanging net in a window of a dormitory. This set the dormitory a blaze while students were in for preps. Arson has been a leading cause in the county for both the responses of both students and staff positively correlated and averaged 41%. Student unrest was strongly thought to be a factor by students more than teachers though on average was lower than arson.

According to NRCC, incidences of student protest actions and violence in Kenyan secondary schools have been perennial and could be traced as far back as the beginning of the 20th Century when the first case was reported at Maseno school in 1908 (Republic of Kenya, 2001). According to the survey conducted in United Kingdom by Arson Control Forum in 2006, nearly half of all secondary schools surveyed had experienced a fire serious enough to call fire and rescue services in the past three years. (Arson Control Forum, 2006).

The findings were further supported by findings on 13th July 2008, fire suspected to have been deliberately caused by students gutted the Ambothuguci Boy's Secondary School in Meru, Kenya. In July 10th 2008, Mitaboni ABC High School in Machakos district was closed and 500 students were sent home after fire gutted a dormitory. On 10 June 2008,

Mukuunu Secondary School students in Eastern province in Kenya attempted to burn their school but did not succeed (Daily Nation, 2009).

According to Tolofari (2010), some fire outbreaks are caused by some individuals with malicious intent to show displeasure or create destruction. Arson was a cause of secondary schools fires in Kenya, as an expression of dissatisfaction with the school administration (Shibutse *et.al*, 2014).

5.4 Number of incidences of fire outbreak in schools

The study investigated the number of fire incidences experienced by the respondents within schools in Bungoma County. The results are as shown in Fig 5.4.

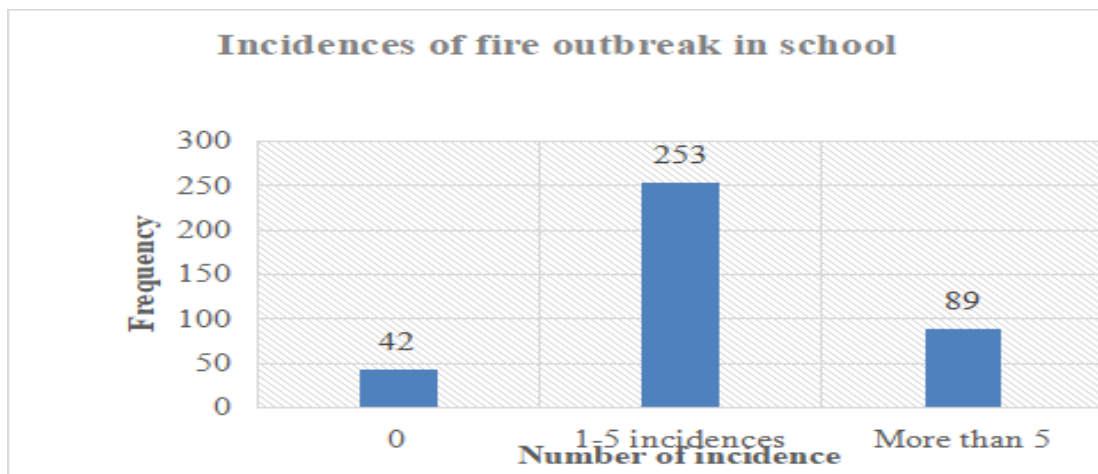


Fig 5.4 Number of fire incidences in schools

Source: Field Data, 2023

The study findings in Fig 5.4 reveal that 253(65.9%) of respondents said they have experienced 1-5 incidences of fire, 89(23.2%) said more than 5 incidences while 42(10.9%) said zero incidences. This implies that majority of respondents have

experienced between 1-5 fire incidences. Thus, most schools have witness fire incidences.

During the interview with teachers and Redcross official, informants categorically said that;

In our school, last term alone we had 3 cases of students burning schools. So far this school has burnt more than 5 times. At first, they burnt the ground floor of this dormitory, but when we never send them home, it took only a week the ground floor was set ablaze. .. our school was burnt because the principal was not yielding to the demands of students concerning issues of sports and entertainment. Principal is not listening to students... student shares the ideas on what to be done at night. In one, school students burnt it due to increase of fees. (Interview with teachers and Redcross official, 14.05.2023.)

The study findings were supported by Xin and Huang (2013) who opined that fire disasters in secondary schools and tertiary institutions are among the known man-made disasters globally with the most devastating events that have been known to cost life and properties. Worldwide, several incidences of fire have reported. For example, apart from loss of life, fire disaster has been associated with prevalence of diseases that have been reported to contribute about 1% of the total global disease burden (Leistikow et al., 2000; Kihila, 2017). One of the commonest devastating effects caused by fire in buildings as observe by several studies include the collapse of World Trade Centre (Kihila, 2017), the fire disaster in Sweden that occurred in 1998 killing 63 people (Cassuto and Tarnow, 2003). Fire disaster in buildings is one of the commonest recognized man-made disasters with the most devastating events that cost life and properties (Xin and Huang 2013).

In July 2005, Nsumba Secondary School in Mwanza had its dormitories gutted twice by fire on different days in the same week whereby students lost all their properties. In 2007, Bigwa Secondary Debris of what used to be bicycles that belonged to the victims of fire that broke out an oil tanker, overturned in MdaulaUbena zomozi area in Dar es Salaam Laam - Morogoro highway (Ippmedia, 2009). In August 2008, Imalilo secondary school in Kwimba district, Mwanza was gutted by fire. Again Machame secondary school in Hai district Kilimanjaro was gutted by fire three times in July, August and November in 2008, several dormitories were burnt. The incidents were too close to each other being regarded as accidental or coincidental.

5.5 Causes of school fires

The study sought to examine the causes of recurrent fire disasters in schools within Bungoma county. The results are as shown in Fig 5.5.

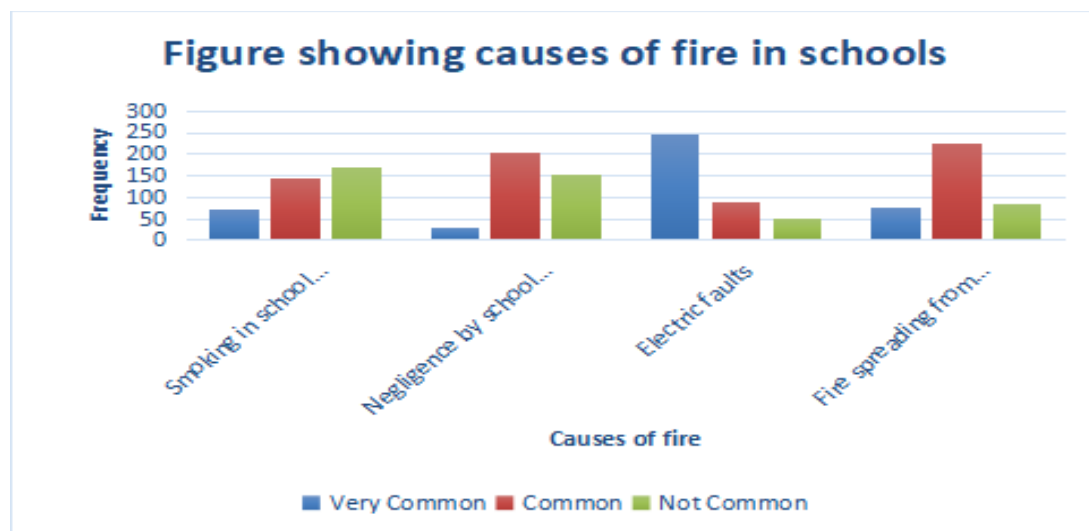


Fig 5.5: Causes of fire in schools

Source: Field Data, 2023

The finding in Fig 5.5 reveals that 70(18.2%) of respondents said smoking in school compound was common, 145(37.8%) said not common while 169(44%) don't know. The finding also reveal that 75(19.5%) said fire spreading from burning of litter was common, 225(58.6%) said not common while 83(21.6%) don't know. The study further established that 246(64.1%), 88(22.9%) said not common while 50(13%) said they don't know. Finally, the study found that 203(52.9%) of respondents said negligence by school staff is not common, 151(39.3%) said they don't know while only 30(7.8%). This implies that majority of respondents agreed that electric faults was the most common cause of fire in schools while majority agreed fire spreading from burning of litter is not common cause of fire.

5.5.1 Electric Faults

The study findings reveal that electric fault was the most cause of fire disaster in schools 246(64.1%), 88(22.9%) said not common while 50(13%) said they don't know. This finding were supported by USFADC, (2007), who opined that most fires in schools result from faulty electrical installation. He further noted that this could be blamed on failure to use qualified electrical Engineers, lack of inspection on the part of the ministry of education and failure on part of the school management to take inspection recommendation seriously regarding the investigated incidence (GOK, 2001, Otieno, 2010 and Muzungu, 2008).

These findings were corroborated by interview with some teachers;

In our school, most fire incidences occurred due to electric fault. Some you find maybe student was charging his phone secretly then, the wires explode leading to fire. Most of these

fires normally occur during prep hours when nobody is in the dormitory thus we conclude its electric fault. (interview with teachers, 15.05.2023)

Contrary, other teachers and OCPD stated that;

Students intentionally burn school when they feel their issues are not sorted out. For instance, in Namwela boys, students set a blaze their dormitory after the principal failed to give them money upon winning the volleyball games. This has repeated three times in this school even when they were denied a chance to participate in games, they burnt the school. Recently, during the filed study, the same school was burnt due to the same reasons. Issues around entertainment and cult worship has led to burning of schools. (interview with teachers and OCPD, 17.5.2023)

Further, another informant stated that; players of Namwela were rewarded after good performance but they never received the money. The money could not be accounted for. Thus, immediately after spots, the school burnt twice. (Interview with Chief and Head prefects).

A study carried out in Siaya district Kenya, on fire disaster preparedness and Risk factors in boarding schools indicate that fires in 40 boarding schools in 2008 were caused by faulty electrical installations, misuse of electrical appliances and arson (Kukali and Kabuka, 2009).

Kahwa and Anyanwu et al. in their studies found faulty electrical installations, use of unqualified electrical engineers during installation , use of substandard electrical materials to save cost , overloading of electrical appliances and maintenance of electrical wiring , as the cause of fires.

5.5.2 Negligence by school staff

The study finding found out that 203(52.9%) of respondents said negligence by school staff is not common, 151(39.3%) said they don't know while only 30(7.8%) said negligence is common. This finding was supported by (GOK, 2004) which stated that destructive fires experienced in Kenya have been either accidental or deliberate but nevertheless preventable if negligence is minimized and regulatory and institutional weaknesses addressed to this end.

Threats to school safety as indicated in the MOE Safety Standard Manual (Republic of Kenya, 2008) can emanate internally within the school environment or externally from within the wide community. Key among the threats to school safety are: accidents caused by carelessness, inattentiveness, ignorance, irresponsibility or negligence on the part of the learners, staff or other stakeholders in general, school violence and harassment, lack of adequate healthcare and nutrition, armed conflicts and insecurity and hostile school environment. Safe and secure school environments facilitate and foster quality teaching and learning in education institutions. In insecure school environment, delinquency, truancy and absenteeism especially among girls is common.

5.5.3 Smoking in school and burning of litter

The study findings reveal that 70(18.9%) of respondents agreed that smoking in school was a common cause of fire while 75(19.5%) of respondents agreed that burning of litter was a common cause of fire in schools. The findings were supported by Arson Control Forum (2006) who opined that the most common causes of schools fires in England and Wales were identified to be of two types, the one started by suspicious or deliberate circumstances or accidental. The suspicious or deliberate circumstances are like setting

fire on the bin, toilet rolls or paper, rubbish or litter. The accidental fire causes are careless disposal of cigarette butts .

Other causes of fire incidents identified by researchers include bush/waste burning , alcohol, drugs, and smoking which was one of the causes of fire disaster in Nepal in a survey carried out by Gautam . Hall maintained that smoking-related materials have been the historical cause of different fire deaths in the United State. Reinforcing this fact, reported that 75% of fire outbreaks in Ghana are caused by smoking and use of drugs. The incidents of fire-outbreak in Nigeria are grossly increasing every year ranging from different locations like residential buildings, warehouses, learning institutions and so on.

5.6 Factors that make students burn school

The study sought to investigate the factors that make students to burn schools in Bungoma County. The findings are presented in Fig 5.6.

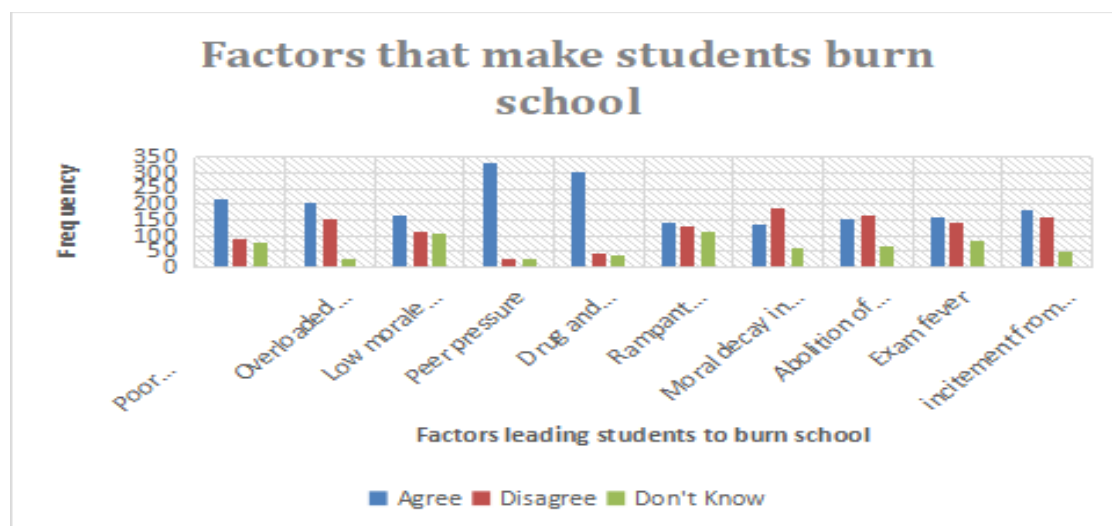


Fig 5.6 Factors that make students burn school

Source: Field Data, 2023

The study findings in Fig 5.6 reveal that 214(55.7%) of respondents said poor management of schools, 92(24%) disagreed while 78(20.3%) said they don't know, 205(53.4%) said overloaded curriculum, 155(40.4%) disagreed while 24(6.2%) said they don't know. The study also noted that 332(86.5%) agreed on peer pressure, 25(6.5%) disagreed while 27(7%) said they don't know. Further, the finding show that 302(78.6%) agreed on drug and substance abuse, 42(10.9%) disagreed while 40(10.5%) said they don't know. The study also noted that 180(46.9%) agreed on incitement from the local communities, 156(40.6%) disagreed while 48(12.5%) said they don't know. Further, the study established that 159(41.4%) agreed on exam fever, 143(37.2%) disagreed while 82(21.4%) said they don't know. Also, the findings reveal that 163(42.4%) agreed on low morale among teachers leading to student incitement.

5.6.1 Poor management of schools

The study findings in Fig 5.6 reveal that 214(55.7%) of respondents said poor management of schools, 92(24%) disagreed while 78(20.3%) said they don't know. These findings were corroborated by interview with chiefs, Spiritual leaders and CSO;

Students normally communicate their issues, but the administration fails to listen keenly and act. Thus, students opt to communicate through burning of schools. Issues of entertainment, sports and increment of fees have led to burning of schools. Sometimes, administration is not listening to students. Poor meals have also led to students being rogue. Some burn school due to bad meals in schools. Issues of half-term has led to many schools being burnt in this region, until it forced the government to make it mandatory in all schools. (interview with chiefs and CSO on 16.5.2023)

This was also supported by interviews with assistant chiefs;

Lack of openness among teachers especially principal making his own decision, which is final. Business in school-tenders (uniforms, food, etc), teachers and community members feel should be theirs instead principal gave to his friends. Principal came mostly with players especially volleyballers and issues started that these student does not pay fees and even remedial. Over trust to those whom he came with. Some doesn't sleep in the dormitory but sleep with them in his house...(Interview with chief 19.05.2023)

The most recent case of fire in Bungoma County occurred in 2021 and 2022 respectively.

In march 2021, Khasoko Boys High School in Bumula constituency, Bungoma County was closed after dormintory was razed down. According to reports by Nation News paper (10th March, 2021), A student who did not want to be named said the fire might have been caused by some students who have been complaining about the schools' 'poor' management. In November 2022, A dormitory at Teremi Boys High School in Bungoma was destroyed by fire, the cause of the fire is suspected to be an electric fault, even so, further probe into it has been launched (NTV News at 7:00pm, 1st November 2022).

Poor management skills are partly to blame for cases of indiscipline that are rising sharply in secondary schools, which in some cases has led to several deaths and injuries. This has resulted to students' unrest being a hazard in issues of fire disasters. Brazil in implementing performance based approach to fire safety code lacked specialist in fire safety engineering to give guidance on implementation (Tavres, 2008).

According to Mr. Nyakeyo, Principal of Itierio Boys, Stakeholders should curb school fires by ensuring regular meetings and mentoring session should be held in schools by teachers and administration; friendly learning environment and counselling should be introduced; school security services and new counselling process should be improved

thus making use of Security Firm Services (Kahenda M. and Abuga E. Standard Media, July 5th 2016).

5.6.2 Overloaded curriculum

The study findings reveal that 205(53.4%) of respondents said overloaded curriculum, 155(40.4%) disagreed while 24(6.2%) said they don't know.

This was in line with an interview with county director of education quality assurance officer;

Pressure on schools to perform thereby restricting students from entertainment. The school programmes are too tight and students given too much work ...Interview with quality assurance officer, 12.05.2023

Another stated that, programme is too tight for the students until getting enough time for personal study and rest is hard. This makes students to burn school. We are normally overstretched because we need to cover the syllabus within a shorter period. It was a crush programme and students could not even have time. As teachers, we also became overwhelmed and fatigued. (interview with teachers on 14.5.2023)

The teacher's union (KNUT) Chairman, was of the opinion that 'students' unrest' is resulted by the abrupt changes in school calendar ,extending August Holiday and leaving term three with only nine weeks .But Cabinet Secretary of Education in address through news reporters said that more students unrests and burning of schools is contributed by poor school management and weak parenting by teachers (July 7th ,2016 ,Oguma M. Nation Media).The government need to appoint a taskforce to look into the matter and close schools to allow students to rest in giving way to solve the issue (Milemba O.,2016).

Similarly, result from NCRC ,2016, regarding second term overload, one teacher in one of the affected school in Eastern Kenya said that; ‘ second term has always been a tough term for candidates ,however ,collective outrage has marked a watershed for a country that had shut eyes to the teen violence in secondary schools in second term’.

5.6.3 Drug and substance abuse

The finding show that 302(78.6%) of respondents agreed on drug and substance abuse, 42(10.9%) disagreed while 40(10.5%)said they don’t know.

These findings were supported by key informant interviews;

Drug and substance abuse has been the major cause of indiscipline in most schools. It has led to rampant school fires. These students fail empowered or rather courageous enough to do the heinous act. Most of the culprits, are either drug addict or deals. This group of drug addict have influenced other students thus easily leading to burning of school. Our school, we caught students who have been using drugs as the culprits. The school was closed, some students suspended and came back with their parents while the masterminds and inciters were send away. (Interview with key informants G & C teachers, chiefs, spiritual leaders, deputy principals, May 2023)

These findings corroborated by a study by the National Authority for the Campaign Against Alcohol and Drug Abuse(NACADA) in Nairobi reported that alcohol was the most commonly abused substance with 36.3%of students reporting a lifetime use followed by khat/ miraa (31.5%), cigarettes (20.2%), bhang (9.8%),heroin (3.1%), inhalants / glue (2.7%) and lastly cocaine (2.2%) (NACADA, 2010).

In another study conducted in a rural secondary school in Kenya, alcohol, tobacco, khat/miraa and bhang (cannabis) were the most commonly reported substances of abuse with user prevalence rates of 5.2%, 3.8%, 3.2%, and 1.7%, respectively (Ndeti et al., 2010). Similar findings have been reported by Ndeti *et al.*, (2010) and NACADA (2010) among secondary school students where alcohol, tobacco, miraa / khat and bhang / marijuana were the most commonly reported drugs and substances of abuse.

5.6.4 Peer pressure

The study also noted that 332(86.5%) agreed on peer pressure, 25(6.5%) disagreed while 27(7%) said they don't know.

These findings were in line with interviews between teachers, chiefs and PTA;

Most students who use drugs do influence their fellows. This trend has been witnessed especially in day schools. Even in boarding schools, some times we are called to go solve the problem of students sneaking in drugs. Whereby students collude with outsiders. Some times, especially in the rural areas, the issues of disco matanga, the local students normally influences their fellows to attend... the local brews and cheap alcohol across Uganda border has created a great problem. These further leads to burning of schools when some of them are suspended or denied chance to continue with their behavior. Others also, upon hearing their neighbor school is burnt, they do the same in order to go home. (interview with chiefs, teachers and PTA 14.05.2023)

This was in line with most interviews with CSO and OCPD;

The students who use drugs normally influences others. They even sell drugs to others. Some even sneak because their friends does the same. We did arrest suspects and some were even convicted. The minors were jailed through probation officer. (Interview with CSO and OCPD on 12.5.2023)

This was supported by NCRC findings, 2016, peer pressure was also the main cause of burning of Secondary schools between June and August, 2016. This is explained as students; as a group bound together by common interests and experiences in a way that the ‘unfavourable situation’ affecting one school is also likely to affect the next school. In such circumstances, the next school may definitely go on rampage not due to copying their colleagues but as a means of expressing their views concerning their colleagues as well as protesting against unfavourable situation taking place in their school.

The spread of student violence is expression of solidarity (Malenya, 2014). Student respondent agreed to being in constant communication with peers in other schools and the outside world through various channels, including smuggled mobile phones and other social media networks. This is the reason copycat pattern of burning quickly spread across many schools (NCRC, 2016).

5.6.5 Exam fever

Further, the study established that 159(41.4%) of respondents agreed on exam fever, 143(37.2%) disagreed while 82(21.4%) said they don’t know. The study findings were further supported by Okebe (2020) who opined that, exam fatigue which is due to giving many tests and quizzes in preparation of the coming KCSE in November was pointed out by 31.8% of Students and 24% of Teachers as the other panic that caused burning of secondary schools ,mainly in second term .Form four students and teachers pointed out that many exams given in term two increased the burning culture in students mentality. For many citizens success in academic and professional examinations is regarded as

success in life as a result rigorous testing of the level preparedness for KCSE candidates .The loads of internal trial examinations and joint zonal exams strains students mentally eventually may encourage students arsons in some learners.

The findings discovered by the study that even if the Ministry of Education is banning mock nationwide they are still widely done in schools through different names as ‘ joint trial exams’. The only difference is that they are done at the Sub-County level. In the minds of students, they are the same straining mock exams despite the change in the name and context of administration.

5.6.6 Rampant expulsion of students

The study findings reveal that 142(37%) of respondents agreed the rampant expulsion leads students to burn school, 131(34.1%) disagreed while 111(28.9%) said they don’t know. According more findings, from NCRC and Periodical, Sagini Task Force Report of 1961 recommended that indiscipline students should be expelled from schools and where necessary be prosecuted according to the laws of the land. In addition, Sagini had recommended that the Ministry of Education should ensure that expelled indisciplined students never be re-admitted in other public schools in the republic. In effect, Ministry of Education in Kenya is to necessarily implement policy measures to the solutions of the ever recurring student unrest and violence for discipline is a requirement for better citizens of productive school community.

5.6.7 Abolition of corporal punishment

The study results show that 155(40.4%) of respondents agreed that abolition of corporal punishment leads students to burning of school, 163(42.4%) disagreed while 66(17.2%) said they don't know. In the African traditional setting, the upbringing of a child using corporal punishment was not necessarily a collectively cherished model. Some tribes believed that corporal punishment inflicted serious injury to the personality while others argued that it trained youths to be aggressive, quarrelsome and warriors who could protect their communities. However, in modern African states, abolition of corporal punishment is perceived differently in different countries depending on the history of colonisation (Shiundu and Omulando, 1992: 15; Mbiti, 2002; Sifuna, 1990, Marah, 2006: 15).

Various arguments have been raised against the use of corporal punishment in schools. Although some research findings indicate that the use of corporal punishment has been associated with increased immediate compliance, doubts are raised over its role in enhancing social skills and self control over time. This is evidenced by the fact that same students are hit for the same misbehavior over and over again (Teicher, 2005). Hyman and Perone (1998) identify various effects of the use of corporal punishment in schools. First, it leads to neurotic reaction for instance fear, anxiety, withdrawal, tension, depression, trauma, stress, timidity and submissiveness. Secondly, it creates resentment and hatred against the punishing teacher and subject leading to poor 25 performance in the subject. Thirdly, it hurts the dignity and self respect of the learner especially if administered in the presence of other students. The forth reason advanced is that it may cause physical harm injuries and even death to the student. As a result, it may lead to rebellion against the teacher and or administration. The other effect is that it may cause

mental torture that leads to maladjusted personalities. The seventh effect is that it may lead to school dropout. This by extension leads to wastage in the education system since the government and parents had already invested in the student who dropout. The eighth effect is that it hardens the offenders instead of reforming them especially when used in excess. It is also unfair especially if inflicted for factors beyond learners control for instance inability to perform well academically. It may also be used by the teacher as a way of venting anger and frustration both from home and work place thus making the student a victim of the teacher's rage and outburst. It is degrading to the teacher since s/he becomes insensitive to human feelings (Nganda, 2002).

First, the use of corporal punishment is considered quick solution, and less time consuming method when compared with others. Secondly, it scares students from repeating mistakes since it is a humiliating form of punishment. Third, lack of commitment by some teachers force them to avoid the trouble of accompanying students in their holistic formation (Meli, 1998.19). In addition, some teachers are not conversant with other forms of instilling discipline in schools apart from corporal punishment. Gladwell (1999) in a survey of teachers' attitude towards ban of corporal punishment in South Africa reported that teachers had a sense of despair attributed mainly to disruptive student behavior and perception by teachers that authority had been taken away after the ban of corporal punishment.

5.6.8 Incitement from the local community

The study findings reveal that 180(46.9%) of respondents agreed that students burnt schools due to incitement from the local community. This was supported by key informant interview with assistant chief of Namwela;

When we investigated the issues of rampant fire in our area, we noticed that community members incited students against the new principal. The claimed the principal was uncooperative and awarded tenders to outsiders or his close friends rather than the members of the community. The school is there to benefit community not outside. We should be allowed to supply services to carter for fees but the principal gave tenders to outsiders. (Interview with assistant chief, 14.05.2023)

This was also in line with key informant interview with teachers, BOM Chair, PTA Chair and chiefs;

In case where the principal left Namwela and went to Sikusi and the same vice happened of burning of school. The distance of transfer between Namwela and Sikusi is very near. Both communities share and in the same breath communities will incite students to reject principal (from problem making school). they say this is not a dumping place. There was a feeling that the same principal is not a man to fulfil students promise if they have won their matches. Or if presents have been given to a team he can't honor players. This results to the students to express their disappointment by burning the schools to force the principal out. The staff and other anti principal forces within and without the school (Interview with Teachers, BOM Chair, PTA Chair and chiefs 20.5.2023)

Another chief said;

Even if students burn school, their reasons does not add up meaning they are used by teachers. Conflict of interest among teachers seeing new principal coming, they think he will benefit thus they turn students against the new principal leading to burning of school. This school has burnt twice this year alone because of issues of new principal and students incitement both from community and teachers..(Interview with chief of Namwela sublocation 19.05.2023)

Another chief stated that;

Some teachers protect the headteacher even if he is wrong because they want to benefit. Discipline reduced due to leadership wrangles among deputy and principals. Political has led to the last burning of school. Reports from the DCIO are not being implemented by the ministry and school. (Interview with chief of Sikusi location 19.05.2023)

Redcross officer in charger of disaster;

Teachers are the leaders in burning of schools. They just use certain students to put up the fire. Sometimes, teachers also initiate the burning. Mostly, they falsify electricity but its teachers using students. (Interview with Redcross official, 13.5.2023)

Among the affected schools included Chesamisi Boys, Khasoko Boys, St. Mary's Kibabii Boys, Kimaeti Boys, Mabanga Girls, Chebosi Secondary School, Mitua Girls, Kimugui Boys, and Sikusi Secondary School. According to the Kenya Secondary School Heads Association Bungoma Chairman, Richard Sabwami, some students were incited by the community to cause chaos, hence ended up burning the institutions for instance, in the case of Sikusi secondary School, the community made students become unruly due to lack of water at the institution, after which they burnt the school dormitory (The Standard, 20th September, 2016).

5.7 Items that have been found hidden in school compound

The study further investigated the items which have been found hidden in school or dormitories. The findings are as shown in Fig 5.7.

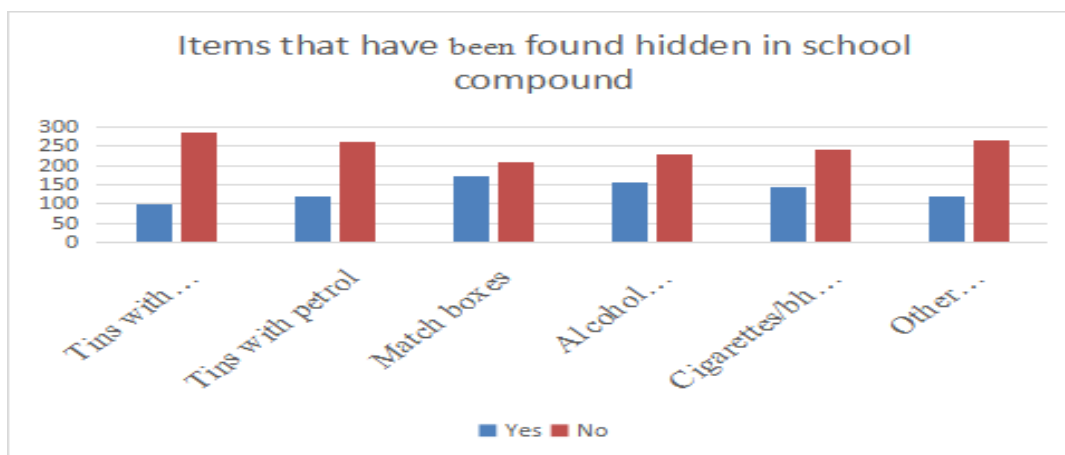


Fig 5.7: Items hidden in school compound

Source: Field Data, 2023

The study findings in Fig 5.7 reveal that 98(25.5%) of respondents said tins with kerosene while 286(74.5%) disagreed, 121(31.5%) agreed on tins with petrol while 263(69.5%) disagreed, 174(45.3%) agreed on match boxes while 210(54.7%) disagreed. The study further established that 157(40.9%) agreed on alcohol bottles or sachets while 227(59.1%) disagreed, 142(37%) agreed on cigarettes or bhang while 242(67%) disagreed, and 120(31.3%) agreed on other ingestible or chewable drugs while 264(69.7%) disagreed. This implies that majority of respondents agreed that matches boxes have been found hidden which might have been used to ignite fire disasters in schools. The few respondents who agreed on these items hidden in school compound paint a picture of what might have been used to cause fires in school. While the majority of respondents who disagreed attributed fires to electric fault and other causes.

The OCPD and Redcross officer confirmed that;

We have even found some bottles of petrol used to burn the dormitories. But these we suspect were colluded by outsiders or teachers mostly in boarding schools. Upon

investigation, students admitted some local and teachers are involved however, failed to mention names... (interview with OCPD and Redcross officer, 11.05.2023)

The study findings were supported by Associated Press (2002) who stated that after Kyanguli Secondary School fire caused by a petrol bomb thrown by students in March 2001, a series of petrol firebomb attacks occurred in many schools due to students' unrest. In Lelmokwo secondary school, seven petrol-bombs were thrown to a 116 capacity dormitory, killing one student and seriously injured fifty three other.

The study findings were further corroborated by Nipashe newspaper, September, (2009) who stated that on 3rd September 2009, the fire gutted Tubuyu day secondary school in Morogoro municipality, some classes were damaged. Some students fainted and rushed to the hospital, however no death occurred. The cause of the fire reported to be the petrol stored in one of the classroom which was ignited by one of the students. This trend of fire accidents in schools is giving an indication that most of our school may not be safe. On 8th September 2009, fire gutted Same secondary school in Kilimanjaro region, administration office, teacher's officers and important documents were destroyed. The effort to suppress the fire proved futile due to lack of fire tender in the district (Mwananchi newspaper, September 9, 2009).

5.8 Possibility of students sneaking out of school

The study examined whether there possibility of students sneaking out of school. The findings are as shown in Fig 5.8

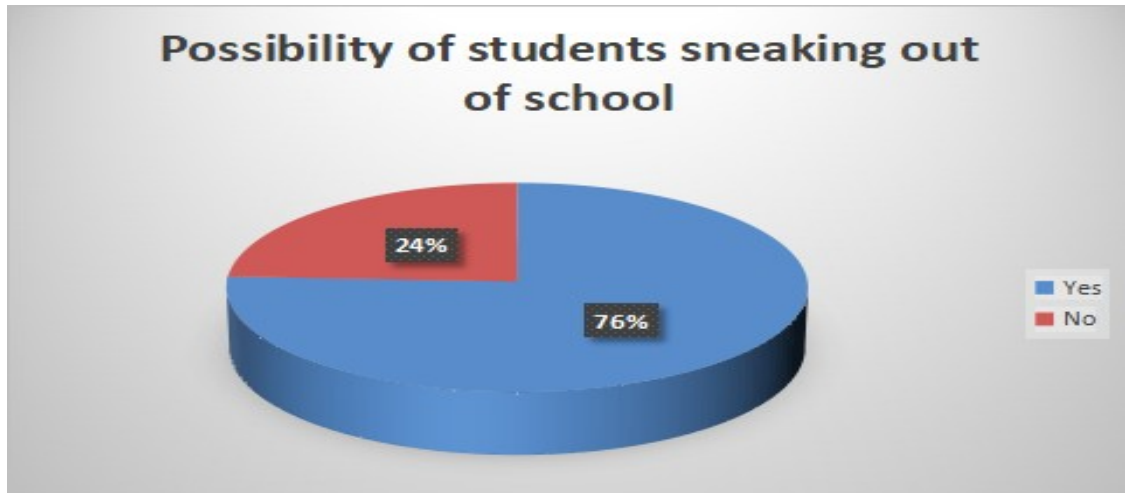


Fig 5.8: Sneaking out of school

Source: Field Data, 2023

The study finding in Fig 5.8 reveals that 291(76%) of respondents agreed that students can sneak out of school while 93(24%) disagreed. This implies that most schools have insecure or porous fences that enable students to sneak. Also, it can be attributed to deviance among students and poor safety measures in schools. The 93(24%) accounts for schools where security has been enhanced through installation of CCTv cameras thus students find it hard to sneak. This were corroborated with the observation checklist where some schools had embraced installation of CCTv cameras to combat the indiscipline cases and monitor surveillance. Also, during observation, in some instances, the fences were porous and too bushy which enable students to sneak.

5.9 Time students are sneaking out

The researcher sought to examine the time students are likely to sneak out of school. The results are presented in Table 5.1.

Table 5.1: Time students are sneaking out

Time	Frequency	Percent	Cumulative Percent
Day time	80	20.8	20.8
Evening hours	124	32.3	53.1
At night	180	46.9	100
Total	384	100	

Source: Field Data, 2023

The study findings in Table 5.1 reveal that 180(46.9%) of respondents said students sneak at night, 124(32.3%) said evening hours while 80(20.8%) said day time. This implies that majority of students sneak out during night period. This can be attributed to when all people have gone to sleep thus, have there time of sneaking. While some good number also sneak out during evening hours. This was supported by key informant interview who said “some students sneak during games time because nobody can notice easily. Normally they sneak through the agriculture farm or near the toilets because they are closer to the fence and abit hidden” . The few who sneak out during time are mainly the day school students.

5.10 How students sneak out of school

The study investigated how students sneak out of school. The findings are shown in Fig 5.9.

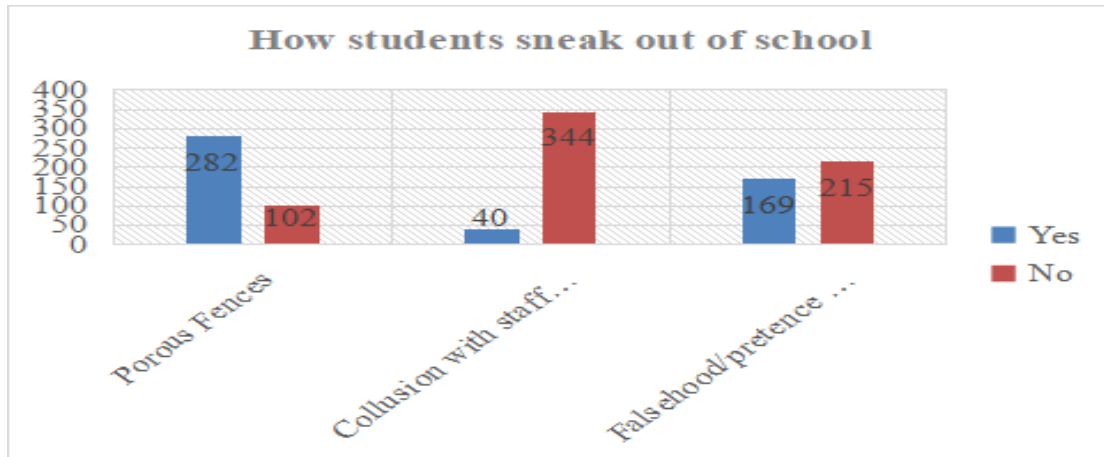


Fig 5.9 Students sneaking out of school

Source: Field Data, 2023

The study finding in Fig 5.9 reveal that 282(73.4%) of respondents said the students sneak through porous fences while 102(26.6%) said no. The study also indicate that 40(10.4%) of respondents said student collusion with staff while 344(89.6%) said no. Finally, the finding also reveal that 169(44%) of respondents said falsehood or pretence of sickness while 215(56%) said no. This implies that most students sneak out through porous fences due to poor security measures and high rate of deviance among students. While majority 334(89.6%) refused that there is no collusion with the staff. This therefore, means most schools are not safe in terms of security and surveillance. This also, means students can easily bring petrol or kerosene for burning of schools or even drugs into school. Hence, the school has loophole for fire disaster occurrence and deviant behaviors.

The findings were supported supported by interview with assistant chiefs;

Fencing system is so poor. We have talked about it severally but administration is doing nothing about it. This

allows entry of petrol of burning. Sides of dormitories are so bushy. Bhang is common among students due to porous fences and bushy areas. The first incident, the student was captured on CCTV then he run away to class. (Interview with chief 18.05.2023)

Omolo and Simatwa (2010) found out that in public secondary schools in Kisumu East and West Districts, Kenyan 70% had emergency doors, 60% had safety instructions prominently displayed in laboratories and workshops, 50% had successfully implemented policy requiring windows to open outwards and be without grills, 93.33% had perimeter fences and secure gates with security personnel. On safety practices the study found out that regular inspection of the school plant had been implemented by 73.33% while 26.67% of schools had not. Nderitu (2009), found out that 55% head teachers and 62% teachers felt that their school fences were not firm enough to deter illegal entry into their premises, 82% head teachers and 62 % teachers felt their were adequate security personnel in their institutions, 64% head teachers and 77% teachers disagreed that schools had adequate security lighting, 82% head teachers and 82 % teachers said that schools had not established school security committees. On inspection the study found that 73% head teachers and 76% teachers revealed schools are rarely inspected.

5.11 Impacts of school fires

The study investigated the impacts of school fires within Bungoma County. The results are as shown in Fig 5.10.

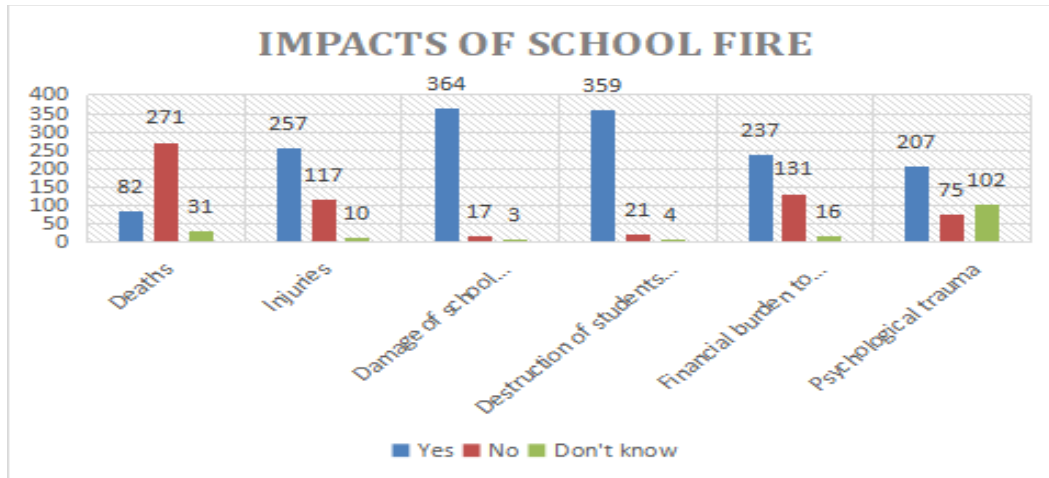


Fig 5.10 Impacts of school fire

Source: Field Data, 2023

The findings in Fig 5.10 reveal that 82(21.4%) of respondents agreed that fire disasters have caused deaths, 271(70.6%) disagreed while 31(8%) said they don't know. The study also noted that 257(66.9%) said injuries, 117(30.5%) disagreed while 10(2.6%) said they don't know. The study further established that 364(94.8%) said there are damage to school property, 17(4.4%) disagreed while 3(0.8%) said they don't know. They results also indicate that 359(93.5%) said destruction of students property, 21(5.5%) disagreed while 4(1%) said they don't know. The study further found that 237(61.7%) said financial burden, 131(34.1%) disagreed while 16(4.2%) said they don't know. Finally, the study established that 207(53.9%) agreed that fire causes psychological trauma, 75(19.5%) disagreed while 102(26.6%) said they don't know.

5.10.1 Damage of properties

The study established that 364(94.8%) said there are damage to school property, 17(4.4%) disagreed while 3(0.8%) said they don't know. The study reveal that damage of school and student properties is the most severe impact of fire disasters in schools.

During interview with teachers,BOM and PTA they stated that,

Students must pay for the damages of reconstruction of the buildings. This impacted on the financial burden to parents as they carry the cost. The teachers also noted that, students only target dormitories because they know, it's the only way they can go home. The deputy principal noted that each student was surcharged with 8,000sh. (Interview with teachers, BOM, PTA on 13.05.2023)

This was also in line with observation checklist as indicated in Plate 5.1



Plate 5.1 Burnt dormitory at Namwela Secondary School

Source: Field Data, 2023

This was further corroborated by an observation made at Sikusi Secondary as shown in Plate 5.2



Plate 5.2 Showing remains of damaged students property

Source: Field Data, 2023

This was confirmed during interviews and FGDs;

The students lost all their properties. These fires normally break out during preps when students are in class. Nothing was saved because we no fire extinguishers and the ones which were there had expired or few. A dorm capacity of 100 students was razed to the ground, leaving students sleeping on the cold. We relocated the students to classrooms. This where they are still having shelter up to date. Two dormitories were burnt and completed destroyed. One can not even be renovated while the other can be (KII and FGDs, 18.5.2023).

This was in line with observation made at Cbebosi Scondary school as indicated in plate 5.3



Plate 5.3 Research Assistant examining the impact of fire on a storey dormitory which has remained closed.

Source: Field Data, 2023

This was further corroborated by interview with Redcross official and head of county fire department, “like in Namwela, Kimilili where 7 students severely suffered loses and injuries. (Interview with chiefs and teachers 17.5.2023) ”

This study findings were supported by DEO Kitui Central, (2015) who stated that Kitui County has also experienced fire disasters in its secondary schools. In 2008 students set a blaze three dormitories in St. Angelas Girls High School, Kitui County, property worth over 500m was lost. St. Ursula girls’ secondary school in Kitui County also experienced a fire outbreak on 4th, September 2013 and a whole dormitory was reduced to ashes. On 6th, September, 2013 a dormitory at Kitui high school was razed down by fire, destroying school property and students’ valuables worth thousands of money. In Lower Yatta Sub-

County several public secondary schools have experienced fire tragedies (DEO Lower Yatta, 2015). In June 2014, a dormitory in Kanyangi Boys was burnt and property worth millions was destroyed. The boys had to go home to enable the school to have the dormitories reconstructed. A month later in June 2014, staffroom in St Lukes Yatta was burnt. In 2015 July a dormitory in Kyaithani Secondary was burnt (DEO, Lower Yatta Sub-County).

In July 2005, Nsumba secondary school in Mwanza had its dormitories gutted by fire on different days in the same week whereby students lost all their properties. In 2006, fire gutted Kilimani primary school in Iringa region destroyed buildings, furniture and teaching material. In 2007, Bigwa secondary school in Morogoro region was gutted by fire and two student dormitories were burnt to ashes. At Highway school in Nairobi, more than 10 students lost property in a dormitory, and at Kirege mixed high school, 78 students were forced to spend the night in the cold as fire gutted their dormitory (Mutura, 2018).

In July 2009, Ole Sokoine secondary school in Monduli district was gutted by fire, no one was killed but properties of the students' were destroyed (Habari Leo, July 2009). On 8th September 2009, fire gutted Same secondary school in Kilimanjaro region, administration office, teacher's offices and important documents were destroyed. The effort to suppress the fire proved futile due to lack of fire tender in the district (Mwananchi Newspaper, September 2009).

In March 2008, Maracha Secondary School in Maracha Terengo district in Uganda was gutted by fire at 7.30 am and two boys' dormitories were burnt (New Vision, March 2008). There were no injuries but properties of students and school were destroyed. On

Tuesday 2nd November, 2010 a dormitory was set ablaze in Kimothai Boy's High School in Kiambu where students were left counting losses after their belongings were reduced to ashes (Daily Nation 2010:10). On 19th November 2010 two students were injured and property worth thousands of shilling reduced to ashes following a dormitory fire at Naivasha High School, (Gitonga 2010:20).

5.10.2 Deaths

The findings in Fig 5.10 reveal that 82(21.4%) of respondents agreed that fire disasters have caused deaths, 271(70.6%) disagreed while 31(8%) said they don't know.

Interview with teachers and chief stated that;

In almost the fires outbreak, we have just a few students who were assisting in putting off fire. The fire was fierce and we had few extinguishers. The fire exploded catching up with some students who were also trying to rescue properties. Most of these incidences have not led to death but severe injuries and total loss of properties. (Interview with teachers and chief, 19.5.2023)

This was supported by Ndetu and Kaluyu, (2016) who opined that in Africa, incidences of fire are frequently common. For example, in 2001 fire gutted a girls' school in Nigeria where 23 students perished after the dormitory they were sleeping was locked and fortified with iron grill. In 2008, 19 girls and 2 adults died after Budo School caught fire in Uganda (Ndetu and Kaluyu, 2016). It was later discovered that the hostel they were sleeping was locked from outside. Several studies on fire disaster have observed that Tanzanian secondary schools for the last ten years have increase significantly (Kahwa, 2009; Nyagawa, 2018). The worst fire incidence to occur in Tanzania was when 45 girls

died as a result of fire outbreaks in Shauritanga secondary school in Kilimanjaro (Nyagawa, 2016).

In July 2008, nineteen children of between eight and fourteen years died in a disco hall in Tabora town due to suffocation. In August 23rd 2009, twelve girl's students died and fifteen were injured at Idodi secondary school after the school dormitory was gutted by fire (Daily Newspaper, August 2009). In July 2006, thirteen children were killed and several injured when fire gutted an Islamic Secondary School in Western Uganda (New Vision, July 2009).

In Kenya for example, several fire incidences have been experienced where lives and properties has been lost. For instance, in 1998 dormitory fire killed 26 students at Bombolulu Girls School in Coast province (Kahwa, 2009). In 2001, 67 boys in a night inferno at Kyanguli school in Machakos County. The dormitory doors had been locked causing a stampede at door-step. In 2012, 8 girls died in a dormitory at Asumbi Girls Bording Primary school in Homa Bay County. In fortunately, the fire could not be put out since the school did not have firefighting equipment (Ndetu and Kaluyu, 2016). This demonstrate the unpreparedness for fire disasters among schools and that many schools do not have firefighting equipment and still the studenta and staff are not trained in dealing with fire disasters (Ndetu and Kaluyu, 2016).

On the night of 23rd May 1999, four prefects in Nyeri High school were burnt to death (Mwaniki, 1991). Another horrifying incident was the Bombolulu Girls Secondary School tragedy which took place on March 25th 1998, leaving 25 girls dead, Njuguna, (2001) and later on 27th March, 2001, in Kyanguli Secondary School 68 lives were lost

and scores of other students injured through a fire tragedy, Odalo, (2001). .On July 19, 2004 a student was burnt to death at Mbiuni High School, Machakos District after colleagues torched dormitories (Standard Newspaper)

5.10.3 Injuries and psychological trauma

The study also noted that 257(66.9%) said injuries, 117(30.5%) disagreed while 10(2.6%) said they don't know. The study established that 207(53.9%) agreed that fire causes psychological trauma, 75(19.5%) disagreed while 102(26.6%) said they don't know.

During FGD and interview with school prefects and teachers respectively;

Most students who experiences fire disasters are left with permanent memories of the horror. Some remember their colleagues who died; some lost all their properties thus keeps recalling the incident. Some due to severe injuries, the scars give them memories that never fade away. Conducting counseling to these students is hard because we are also traumatized and have no expertise. Sometimes, we call nurses and counselors to come and assist us. Sometimes, we are forced to transfer the students to other schools as away of removing the memories. I have never forgotten what happened. How our properties were burnt beyond rescue. Our colleagues were injured seriously...its horrifying to us. (Interview with KII and FGD 17.5.2023)

On 3rd September 2009, the fire gutted Tubuyu day secondary school in Morogoro municipality, some classes were damaged and some students fainted and rushed to the hospital, no one was killed (Nipashe Newspaper, September 2009).

Increased incidences of fires in schools have become a great concern because of loss of human life and injuries. The trauma accompanying such incidences is unimaginable

especially to the already overwhelmed students. Property worth is destroyed and valuable time is wasted in the reconstruction process. The aforementioned cases are a pointer to how insecure schools have become. Nderitu (2009) notes, despite the stringent safety measures envisaged by the ministry of education fire disasters still occur. Otieno (2010) found that most schools in Kenya have no capacity to handle fire emergencies and are yet to implement the Safety Standards Manual produced in 2008 by the Ministry of Education. On September, 29th 2010 thirty five pupils were injured at Osinoni Primary school in Transmara West District. The pupils sustained serious burns when lightning struck. (Daily Nation, 2020).

5.11 Chapter Summary

The study findings revealed that 291(76%) of respondents agreed experiencing fire disasters in school while 93(24%) disagreed experiencing fire. This implies that majority of respondents have experienced fire disasters in school attributed to their long stay or the school have history of fire incidences every year. The findings of this study shows that, (93%) of the respondents have heard about fire outbreak in other schools while 7% disagreed.

The study findings revealed that 344(90%) of respondents have heard about arson by students while 40(10%) disagreed. This implies that in most incidences, students have been involved in burning of schools. The study findings revealed that 253(65.9%) of respondents said they have experienced 1-5 incidences of fire, 89(23.2%) said more than 5 incidences while 42(10.9%) said zero incidences. This implies that majority of respondents have experienced between 1-5 fire incidences.

The finding revealed that 70(18.2%) of respondents said smoking in school compound was common, 145(37.8%) said not common while 169(44%) don't know. The finding also reveal that 75(19.5%) said fire spreading from burning of litter was common, 225(58.6%) said not common while 83(21.6%) don't know. The study further established that 246(64.1%), 88(22.9%) said not common while 50(13%) said they don't know. Also, the study found that 203(52.9%) of respondents said negligence by school staff is not common, 151(39.3%) said they don't know while only 30(7.8%).

The study findings revealed that 214(55.7%) of respondents said poor management of schools, 92(24%) disagreed while 78(20.3%) said they don't know, 205(53.4%) said overloaded curriculum, 155(40.4%) disagreed while 24(6.2%) said they don't know. The study also noted that 332(86.5%) agreed on peer pressure, 25(6.5%) disagreed while 27(7%) said they don't know. Further, the finding show that 302(78.6%) agreed on drug and substance abuse, 42(10.9%) disagreed while 40(10.5%) said they don't know. The study also noted that 180(46.9%) agreed on incitement from the local communities, 156(40.6%) disagreed while 48(12.5%) said they don't know. Further, the study established that 159(41.4%) agreed on exam fever, 143(37.2%) disagreed while 82(21.4%) said they don't know. Also, the findings reveal that 163(42.4%) agreed on low morale among teachers leading to student incitement.

The study findings revealed that 98(25.5%) of respondents said tins with kerosene while 286(74.5%) disagreed, 121(31.5%) agreed on tins with petrol while 263(69.5%) disagreed, 174(45.3%) agreed on match boxes while 210(54.7%) disagreed. The study further established that 157(40.9%) agreed on alcohol bottles or sachets while 227(59.1%) disagreed, 142(37%) agreed on cigarettes or bhang while 242(67%)

disagreed, and 120(31.3%) agreed on other ingestible or chewable drugs while 264(69.7%) disagreed. This implies that majority of respondents agreed that matches boxes have been found hidden which might have been used to ignite fire disasters in schools.

The study findings revealed that 291(76%) of respondents agreed that students can sneak out of school while 93(24%) disagreed. This implies that most schools have insecure or porous fences that enable students to sneak. The study findings revealed that 180(46.9%) of respondents said students sneak at night, 124(32.3%) said evening hours while 80(20.8%) said day time. This implies that majority of students sneak out during night period. The study finding revealed that 282(73.4%) of respondents said the students sneak through porous fences while 102(26.6%) said no. The study also indicate that 40(10.4%) of respondents said student collusion with staff while 344(89.6%) said no. Finally, the finding also reveal that 169(44%) of respondents said falsehood or pretence of sickness while 215(56%) said no. This implies that most students sneak out through porous fences due to poor security measures and high rate of deviance among students.

The findings revealed that 82(21.4%) of respondents agreed that fire disasters have caused deaths, 271(70.6%) disagreed while 31(8%) said they don't know. The study also noted that 257(66.9%) said injuries, 117(30.5%) disagreed while 10(2.6%) said they don't know. The study further established that 364(94.8%) said there are damage to school property, 17(4.4%) disagreed while 3(0.8%) said they don't know. They results also indicate that 359(93.5%) said destruction of students property, 21(5.5%) disagreed while 4(1%) said they don't know. The study further found that 237(61.7%) said financial burden, 131(34.1%) disagreed while 16(4.2%) said they don't know. Finally,

the study established that 207(53.9%) agreed that fire causes psychological trauma, 75(19.5%) disagreed while 102(26.6%) said they don't know. The next chapter, discusses findings in regards to specific objective three, chapter six.

CHAPTE SIX: STRATEGIES TO MITIGATE FIRE DISASTERS IN SCHOOLS WITHIN BUNGOMA COUNTY

This chapter dealt with specific objective three which was to evaluate the strategies used by schools to mitigate fire disasters within Bungoma County; it provides the fire management equipment and installation, whether the students can use them or not, fire safety training, type of punishment for deviance, solutions to deviance, the strategies adopted; how often teachers speak about fire safety in schools, knowledge of basic first aid, solutions to deviance and finally chapter summary.

6.1 Fire management equipment and installation

The study sought to examine strategies of mitigating fire disasters in schools by investigating whether fire management equipment and installations are available in schools within Bungoma County or not. The findings are as presented in Table 6.1.

Table 6.1 Fire Management equipment and installation

Equipment and Installation	Available	Not Available	Number available
Fire Extinguishers	371	13	3-15
Fire Alarms	94	290	0-2
Fire Assembly points	209	175	0-2
Fire Exits	147	237	0-3
Smoke detectors	35	349	0-1
First Aid Kits	287	97	1.5
Fire hose reels	56	328	0-2
Fire buckets	91	293	0-5
Fire blankets	48	336	0-7

Source: Field Data, 2023

The study findings in Table 6.1 reveal that most schools had fire extinguishers 371(96.6%), while those not having were 13(3.4%), fire assembly were 209(54.4%) while those not available were 175(45.6%), first aid kit 287(74.7%) while those not having were 97(23.3%). This indicates that most schools were not fully equipped to handle fire disaster. This is lack of fire safety preparedness. This study concurs with a study carried out by Gichuru (2013), that firefighting equipment are not adequate in most public secondary schools.

This conforms with a study done by Mwangi (2008) on factors influencing implementation of fire disaster risk reduction in public secondary schools in Nyandarua South District which showed that respondents majorly disagreed that schools had been fitted with sufficient fire extinguishers, first aid kits, reliable alarms systems, sufficient lighting arrestors and maintained school emergency kits. Lack of these fire devices led to poor or no fire disaster risk reduction in the schools hence serious fire in the effected schools were experienced leading to loss of lives and property.

6.1.1 Fire extinguishers

The study found out that those who had fire extinguishers 371(96.6%), while those not having were 13(3.4%). It shows that majority of schools have fire extinguishers however, 13(3.4%) which does not have might have a problem in fire safety and preparedness. Only a few schools have fire extinguishers in offices, classrooms, dormitories and kitchen and most of them are not regularly serviced.

This finding was supported by key informant interview with teachers;

We have fire extinguishers in school but very few. Sometimes when fire breakout, students really struggle to put it off. We have between 5-10 fire extinguishers in the entire school. Some of which have never been serviced while others got finished. Currently, no fire extinguisher is working. In our school, we only one fire extinguisher mounted at the corridor of the office. But I doubt when it was last checked. This shows how unprepared this school is in terms of fire safety. (Interview with teachers, 18.5.2023)

The findings was in line with observation made as indicated in Palte 6.1



Plate 6.1 Fire extinguisher mounted with instructions at the office corridor

Source: Field Data, 2023

Studies by Mugiti (2012), Gichuru (2013) and Mwangi (2009) indicate that schools are not yet prepared for fire disaster risk reduction. The three studies show that firefighting equipment are inadequate, headteachers, teachers and students are not trained on fire disaster risk reduction and some building policies have not been adhered to. Akali,

Khabamba and Muyinga (2009) observe that little has been done to prepare schools for fires. This was supported by the observation checklist where it was evident most schools lacked fire hose reels, fire extinguishers and fire exit routes clearly labeled.

In another study by Ng'ang'a (2013) revealed that students' population violated compliance with safety standards based on poor spacing of beds in dormitory and lockers in classrooms. In addition, according to Otieno et al. (2010), the Principal Kisumu girls' high school with a student capacity of about 1,045, was quoted saying that "the school has fire extinguishers which are not enough and even the few which are available are expensive to maintain" This was confirmed by an interview with county education quality assurance officer who stated that, "the number of learners and demands in schools is too high in particular schools thus putting pressure on the available facility."

According to the Director of Education in her Circular Ref. No. G9/1/169 dated on 10th April 2001(Republic of Kenya, 2001), there have been a number of incidents of fire and other risk situations in our educational institutions. This made it necessary for the Ministry to review all Health and Safety Standards in all educational institutions, and also provide the relevant guidelines that affect the welfare of students. In the introduction of the above mentioned circular the Director of Education observes that educational institutions in this country are for greater part of the year, home to the majority of students. She further explains that in the last few years, there have been a number of incidents of fire and other health risk situations in the educational institutions.

6.1.2 Fire exist

The study findings reveal that those who said fire exists are available were 147(38.3%) while those who said not available were 237(61.7%). From the observation checklist, there was no clearly labeled fire exists doors report which concurs with observation schedule where fire exist points were not well labeled and direction post was not available in most schools. The implication is that even though there are fire exits in the buildings, in case of fire disaster people in school may still suffer because they cannot access them. This shows lack of preparedness.

From the observation checklist, the study noted that

most schools lack well labeled fire exist routes in buildings. This makes it hard for students and teachers to escape upon fire outbreak. The temporary classes where students were relocated have only one door thus the furthest students can not easily escape during fire outbreak (observation 16.05.2023)

This was further supported by interview with teachers;

We don't know even know how fire exist works or how to place it. We have never been trained on such thus we have never installed them. Secondly, the kind of structures we have, its just one door and mostly its corridor like structures especially administration block. When we had fire outbreak, stampede was witnessed because we had no clearly labeled fire exist routes. (Interview with teachers 12.5.2023)

The absence of firefighting equipment and emergency exits led to the high death toll during the Kyanguli Secondary School fire. Sixty eight boys lost their lives in this incident. According to the safety standards manual dormitories are the single most physical infrastructure, where learners spend the longest continuous period of time in a day. The manual gives the following specifications for dormitories; 1.2 meters wide

space between beds, 2 meters wide corridor, admission to be based on bed capacity, doors to be at each end, be 5 meters wide and open outwards among others (GOK, 2008).

According to Makhanu (2009), schools around the country have failed to emphasize installation of fire fighting equipment, alarms and first aid kits. Vulnerability of schools to fire tragedy is usually attributed to some factors such as, construction materials may not be resistant to fire. Secondly, they may lack fire fighting equipment or the equipment may not be operational such as installed ventilators that are not operational, exits that are permanently locked or are blocked, grilled windows, lack of installed alarm systems, inadequate fire fighting facilities such as fire extinguishers, doors that open inwards, such that in case of an emergency majority of students pushing the door would jam it and eventually get caught up by fire.

This was further supported by Nderitu (2009) who reported, that most schools did not have adequate fire fighting facilities nor reliable alarm systems. Fire safety equipment in schools and other public places should be installed and operational in preparation for disasters. These equipment include fire extinguishers, fire blanket, alarms, sand, reliable supply of water and water hoses. Smoke detectors can also be used to sense and warn people in cases of fires thus mitigating destruction. These equipment must be properly installed and marked with appropriate signs and be placed in visible and accessible points of buildings; they should be in good working condition achieved through regular inspection. An emergency kit is important and it should contain first aid supplies, flash lights, batteries, whistles, radios. The kit should be checked regularly and maintained to

ensure that its components are there, also the blueprints of school buildings should be placed in visible areas.

Akali, Khabamba and Muyinga (2011) found that, there was minimal effort done to prepare secondary schools in Kenya to handle fire disasters. Only few secondary schools had fire fighting facilities in school buildings such as offices, laboratories, stores and kitchen. According to observation checklist, most schools had fire fighting facilities only in officers. The available fire facilities were not regularly inspected and serviced. This also concurs with Njoroge (2008) school inspectors hardly perform safety inspection during routine checks in school and many schools have inadequate supply of water or lack hydrant points that would be effective in putting out fire. This was supported by the observation checklist where most schools had expired or un-serviced fire extinguishers as indicated in Plate 6.2

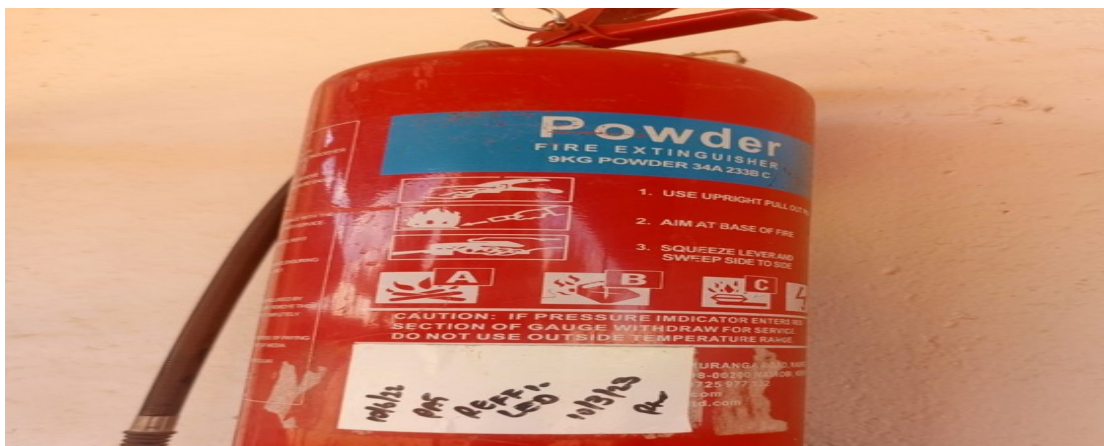


Plate 6.2 Expired fire extinguisher which was to be serviced on 10/3/2023

Source: Field Data, 2023

Mwenga (2008) found that there was no adequate firefighting equipment in the schools in Kyuso District. In addition, the number of firefighting equipment, fire assembly points

and first aid kits were un-proportional to the size of the schools and the number of learners hence most schools were not able to effectively to deal with fire disaster. In most schools in Nyandarua South District, fire fighting equipment were not adequate, (Mwangi, 2014). This implies that most secondary schools are not well prepared to fight fire.

The findings of this study paint a different picture from what the Director of Higher Education by then Mr. David Siele was quoted to have said that “there have been many incidents of fire outbreaks in schools and that they should ensure these situations come to an end” (The Standard 2nd August, 2006).

However, the study revealed that most schools does not have fire fighting equipment in designated places as advised by the ministry. Some extinguishers had expired and long time serviced. During observations,few fire extinguishers were noticed within the school as shown in Plate 6.3



Plate 6.3 Showing few fire extinguishers locked in a cage

Source: Field Data, 2023

This was supported by key informant interview with teachers;

We have more than 3000 students in this school, yet the fire extinguishers, training and even fire horse reels are less. We struggle during fire outbreak as this school is prone to fires almost every term. Atleast we experience 2-3 fire outbreak every term. Even if we try fighting the fire, the extinguishers are not enough, also majority have never been inspected or serviced (Interview with boarding master 15.5.2023)

The study findings were supported by Ians (2010) on a study in India discovered that as many as 1,200 schools in the national capital, including some top privately run institutions, are flouting fire safety norms. He said most schools seemed more interested in admitting a large number of children instead of providing them a safe environment.

He further noted that many schools in the capital start operation with a —temporary no objection certificate (NOC) on the understanding that they would install the necessary equipment within one year. However, many educational institutes never go back to the fire department for getting a permanent NOC. While many government schools do not have basic equipment, many private schools have not bothered to get their facilities certified from the fire department. Mwenga (2008) on a study to establish the safety preparedness of secondary schools in Kyuso District, Kenya established that in this district there is no adequate fire-fighting equipment in the schools as majority, 43% had between 1 - 5 fire-fighting equipment. In addition, the number of firefighting equipment, fire-fighting points and first aid kits were found to be un-proportional to the size of the schools and the number of students hence inadequate to deal with any emergency.

Further, the findings corroborated with Lucheli and Masese (2009) also noted that the high cost of fire-fighting equipment has made it impossible for North Rift schools to install the kits. Though many schools have removed grills from windows and installed double doors in dormitories, they lack fire extinguishers. Following the 2001 fire disaster at Kyanguli in Machakos, where 67 students lost their lives, the Government gave money to secondary schools for safety measures. However, Lucheli and Masese (2009) observed that most schools lacked fire extinguishers and where they were available; they were not in good working condition. Most schools have tried to meet the safety requirements, but fire extinguishers are still a challenge. The principals reported that schools acquired fire-fighting equipment from one company with Government funding, but what the company delivered was substandard. After the Government stopped funding, schools started single sourcing, but stringent budgets frustrated their efforts. In Nyanza, more than 1,000 secondary schools do not have sufficient fire-fighting equipment. This shows how ill-equipped schools are to fire in case of a fire disaster hence fire unpreparedness.

These findings disagreed with those of Gikandi, Ogutu and Obwocha (2006) who reported that some schools had installed fire fighting equipment at strategic points like Dormitories, Classrooms, Laboratories and other special rooms. This provision of fire equipment in most schools is a step in the right direction; however, there is need to keep them serviceable. Makabila, Ayodo and Ringa (2006) found out that majority of boarding schools have old fire equipment which had not been serviced for long and this put doubt to their usefulness in case of fire outbreak.

6.1.3 Fire Assembly Point

The study findings reveal that 209(83.6%) of respondents agreed that fire assembly points are available while 175(16.4%) said not available. This shows that majority of schools have fire assembly points. However, it was evident that majority don't know how to use them. Some were located in between buildings vis a vi the required free open space as indicated in Plate 6.4



Plate 6. 4 Showing Fire Assembly point located between classrooms at Kimilili Boys

Source: Field Data, 2023

6.1.4 Fire horse reels

The study found that most schools don't have fire horse reels 328(85.4%) while a few 56(14.6%) agreed having fire horse reel. It was evident from the observation that few schools had fire hydrant which mostly were mounted on boarding section as shown in Plate 6.5.



Plate 6.5 Mounted fire horse reel on a dormitory at Kimilili Boys.

Source: Field Data, 2023

This study was supported by Maritim Jamima Chemeli found that 66.2% of teachers reported their schools to have no fire safety plan, 22.7% reported to have fire alarms and 78.8% reported to have no water horse hydrants in their schools, further results show that 71% students reported exit doors did not open outwardly, 34.8% students reported their classrooms and dormitories windows had grills these were contrary to the requirements of school safety manual in Kenya.

The findings were further supported by Gichuru (2013) who carried out study on fire disaster preparedness strategies in secondary schools in Githunguri and the study found out that majority of learning institutions had no capacity to handle emergencies such as fire disasters and are yet to comply with the safety standards manual produced in 2008 by the Ministry of Education. The study revealed that fire fighting equipment in most schools were inadequate and rarely inspected. In relation to building and fire safety most schools had made effort to improve fire disaster preparedness but their preparedness is still poor and needs to be improved. Mwangi (2014) in his study also revealed that

firefighting equipment in most schools was not enough and that in most schools there were no evacuation plans and also most secondary schools had not trained the stakeholders on fire disaster preparedness.

6.1.5 First Aid Kits

The study findings reveal that 287(74.7%) of respondents agreed that first aid kits are available while 97(25.3%) said not available. According to Red Cross Society (2008), a First Aid kit is a set of medicines and equipment for providing basic treatment in emergencies. First Aid kits are essential in routine daily life as there are chances for accidents to occur when people least expect them. It is advisable to have First Aid kits in schools to be used when circumstances require them. A First Aid kit can make the difference between life and death especially before proper medical attention is obtained. Availability of First Aid kits shows that a school is prepared for emergencies.

6.2 Student able to use the equipment and installation

The study further sought to examine whether the fire safety equipment and installation as mitigating strategies of fire can be handled by students or not. The findings are as shown in Table 6.2.

Table 6.2: Student can use the equipment or installation

Equipment and Installation	I can use	I can not use
Fire Extinguishers	268	116
Fire Alarms	106	278
Fire Assembly points	208	176
Fire Exists	176	208
Smoke detectors	48	336
First Aid Kits	263	121
Fire horse reels	52	332
Fire buckets	144	240
Fire blankets	140	244

Source: Field Data, 2023

The findings in Table 6.2 reveal that 268(69.8%) of respondents agreed that they can use fire extinguishers while 116(30.1%) don't know how to use, 106(27.6%) can use fire alarms while 278(72.4%) can not use fire alarms. The further established that, 208(54.2%) can use fire assembly points while 176(45.8%) can not use fire assembly points, 176(45.8%) can use fire exists while 208(54.2%) can not use fire exists. The study also reveal that 48(12.5%) of respondents can use smoke detectors while 336(87.5%) can not use, 263(68.5%) of respondents can use first aid kits while 121(31.5%) can not use. Further, the indicate that 52(13.5%) of respondents can use fire horse reels while 332(86.5%) can not use, 144(37.5%) can use fire buckets while 240(62.5%) can not use, 140(36.5%) of respondents can use fire blankets while 244(63.5%) can not use.

The findings in Table 6.2 indicates that majority 208(54.1%) of the respondents knew the use of fire assembly points while 176(45.9%) did not have an idea on how to use fire assembly.

This was further supported by interview with teachers;

We don't know even know how fire exist works or how to place it. We have never been trained on such thus we have never installed them. Secondly, the kind of structures we have, its just one door and mostly its corridor like structures especially administration block. When we had fire outbreak, stampede was witnessed because we had no clearly labeled fire exist routes. (Interview with teachers 12.5.2023).

This was supported by FGDs where discussants agreed by saying that fire assembly points were meant for people to assemble in case of fire. Further, during FGDs, majority of the participants indicated good knowledge of the use of fire assembly points as well. Similarly, most participants during FDGs and KIIs indicated that they did not have any competency in the use of almost all the firefighting equipment.

These findings were further supported by Kishoyian *et al.*, (2021) who opined that even though 67.6% of the respondents knew the use of fire assembly points, the remaining percentage of 32.4% of those who do not know is a big number and these percentage could be in danger should there be fire outbreak in their hostels because they do not know where to assemble for safety. His study further found that majority of the respondents knew that the key to the hostel main door was kept by one of the students, with 24.1% not knowing who keeps the key. This is very risk because in an event that there is fire emergency, the student may not know where to obtain the key, and this may lead to students death which could be avoided if the door was not locked or if they all knew who keeps the key. His study also revealed that 96.1% of the respondents knew the main firefighting equipment were fire extinguishers, while 50% knew sand buckets were also provided. However, 31.8% of the respondents indicated that they did not know how to use them. This would defeat the whole purpose of providing the when students are not

trained on how to use them. This finding is supported by a similar study conducted by Akussah and Fosu (2001) in Ghana which revealed that, in many of the schools, students had not been trained on the use of firefighting equipment including fire extinguishers.

The study findings were further supported by Nderitu (2009) found out that teachers, support staff and students and the school community at large were not trained on fire disaster management. Efforts must be done to educate and train staff and students on how to respond to fire emergency and evacuation procedures, otherwise in the event of a fire disaster, a period of panic and confusion may crop up before any action can be taken. Panic, can also be manifested in inexperienced, untrained rescuers as well as ill-equipped personnel.

Competency in the use of firefighting equipment is vital in order to achieve proper fire disaster preparedness. However, this study found that many students did not have competency in the use of many of the firefighting equipment. This finding agrees with a study conducted by Ayonga (2016) who found out that students were not practicing fire response measures such as drills in schools in which firefighting equipment were used. This meant that incase of any fire outbreak, students would be helpless even though various firefighting equipment had been provided by the management. Therefore, periodical mock drills and evacuation drills should frequently be exercised in all the learning institutions in collaboration with the concerned authorities, such as Red Cross, police and Fire brigades. This would help in making the practice of fire disaster response more successful, and minimize loss of life and property in case of a fire emergency.

The study established that 268(69.8%) of the respondents don't know how to use fire extinguishers while 336(87.5%) of respondents don't know how to use fire horse reels. A

similar finding was established by Izumi and Shaw (2012) at learning institutions at Geneva, Switzerland, where practice of fire response procedures were never done, or were done after long period. The finding was also supported by a study conducted by Kipngeno (2009) in schools at Turkana which established that few secondary school students knew the importance of fire drills and that fire safety measures were rarely performed in the schools. This is dangerous because in case of a fire outbreak, the students may be stranded and may lead to loss of life and fire injuries.

6.3 Students being punished

The study wanted to find out whether students having deviant behaviors were punished as a mitigation of fire disasters in schools. The findings are presented in Fig 6.1.

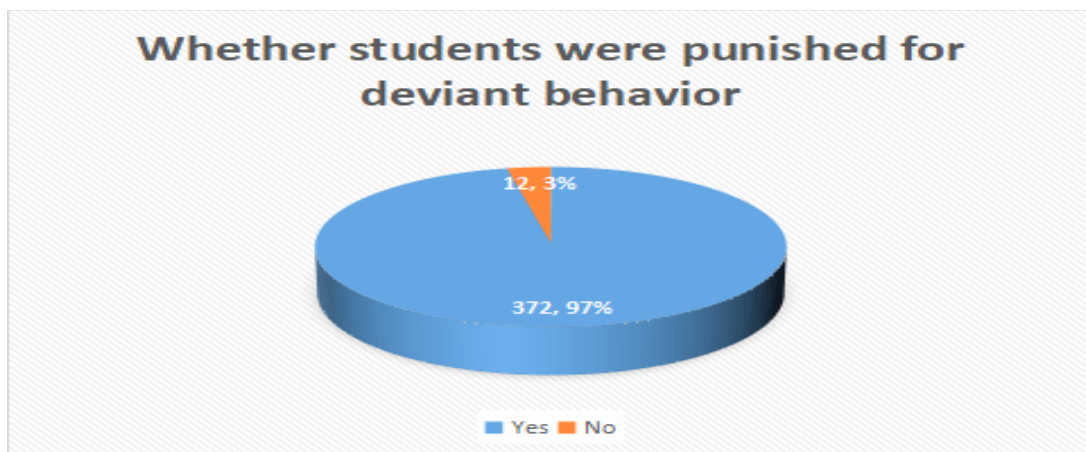


Fig 6.1: Students being punished for deviant behavior.

Source: Field Data, 2023

The findings in Fig 6.1 reveal that respondents who agreed that deviant behaviors were punished were 372(97%) while only 12(3%) said no. The results shows that most schools have forms of administering punishment to deviant behaviors among students while the

3% can be attributed to either minor cases of indiscipline or rather students who have not experienced punishment.

6.3.1 Type of punishment for deviant behavior

The study also examined the type of punishment administered to deviant students in schools within Bungoma County in order to mitigate the fire disasters. The findings are presented in Fig 6.2

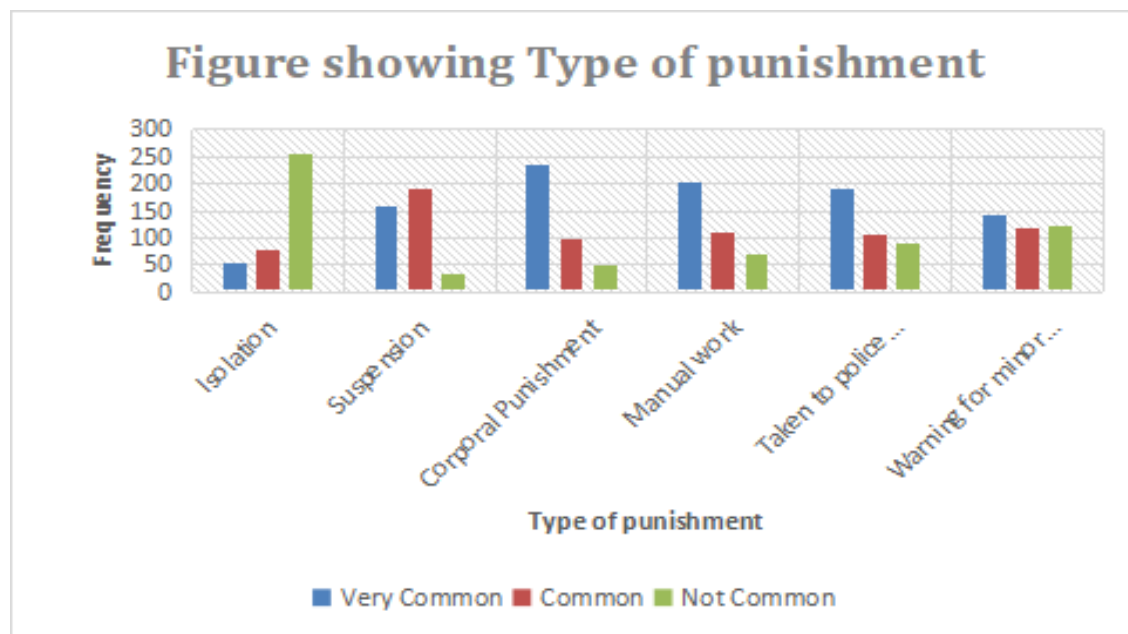


Fig 6.2 Type of punishment in school

Source: Field Data, 2023

The findings in Fig 6.2 reveal that the corporal punishment/canning was very common 236(61.5%), followed by being sent to perform manual work 203(52.9%) and taken to police custody 189(49.2%). The study also found that isolation from school was not common 255(66.4%) while suspension from school was common 192(50%) followed by warning in case of minor offences 118(30.7%). This implies that most schools have some

forms of administering punishment to deviant students. Also, the study findings shows that different kind of deviance attract specific form of punishment thus there is not standard type of punishment for all deviance.

6.3.1.1 Corporal punishment

The study findings reveal that 236(61.5%) of respondents agreed that corporal punishment was very common in school, 97(25.3%) said common while 51(13.2%) said not common. This implies that most schools still apply corporal punishment regardless of its abolition.

These findings were corroborated by key informant interviews with teachers:

Sometimes we are forced to use corporal punishment due to nature of the offences and frequency. But we are always caught between a hard place and a rock because of ministry directives that corporal punishment is abolished. We have hard cases where teachers have been interdicted for giving corporal punishment...some instances, students die. This has destroyed the image.(Interview with teachers on 17.05.2023)

According to quality assurance officer at MOE, he stated that, corporal punishment was abolished and should not be administered in schools. Though some teachers are still practicing this act. We have dealt with teachers found guilty of this act. (interview with Quality assurance officer, MOE on 18.5.2023)

Contrary to the expectation of administering corporal punishment, Hyman (1995) notes that studies have shown that schools with high rate 26 of corporal punishment record higher rates of student's misbehavior. States with high rates of corporal punishment also experience high rates of violence, aggression and homicide committed by children.

Owen, (2005) asserts that administering violence legitimizes the practice of violence by using violent means to solve problems. One of the ways of ending the use of corporal punishment is by educating the general public on the negative effects. This would generate public concern over its use. Empirically based alternatives can also be employed for instance, social skills and character education programmes (Price, 2007).

According to the sessional paper no. 1 (2005), Corporal punishment hinders learning, encourages and leads children to drop out of school. It also undermines the purpose of education as it is articulated in the paper which states that education shall be directed toward the development of the child mental and physical abilities to the fullest potentials development of respect for human rights. It also protects fundamental freedoms and preparation of the child for responsible life in a free society. This is the spirit of understanding, peace and tolerance (Sessional Paper No.1 2005).

A study carried out by Martin (2006) revealed that teachers prefer caning the student for range of offences such as lies, playing tricks, truancy, cheating, stealing, violence and failure to score high marks during examination. However, when even a teacher is intending to carry out corporal punishment he/she should match it with the behavior intensity where pupils should be fully made to understand why they are being punished. In 1985 the Kenyan Minister for education, supported the use of corporal punishment and explained that a child need to be supported in order to improve his discipline through use of punishment in the area of learning. This was quite contrary to the children act of the year 2001 which stressed on the teachers to make use of the alternatives to caning and argue that physical punishment violated the child's and human rights.

6.3.1.2 Manual work

The study findings reveal that 203(52.9%) of respondents agreed that performing manual work was very common in schools, 115(29.9%) said common while 69(18%) said not common. This implies that majority of students perform manual as a form of punishment.

This corroborated with Okumbe (2007) identifies manual work as one form of correction of infraction used in many schools. He however notes that it is time consuming for both the student and the teacher. Another demerit is that it may make the victim to associate manual work with some subjects like Agriculture that involve practical training with punishment or something unpleasant. The same applies for situations where physical drills like running is used as a form of punishment.

6.3.1.3 Taken to police custody

The study findings reveal that 189(49.2%) of respondents agreed that being taken to police custody was very common, 105(27.3%) said common while 90(23.5%) said not common. This implies that most suspects of arson are taken to police custody.

6.3.1.4 Change of students after punishment

The researcher investigated whether students do change for the better after being punished for deviant behavior. The findings are as presented in Fig 6.3.

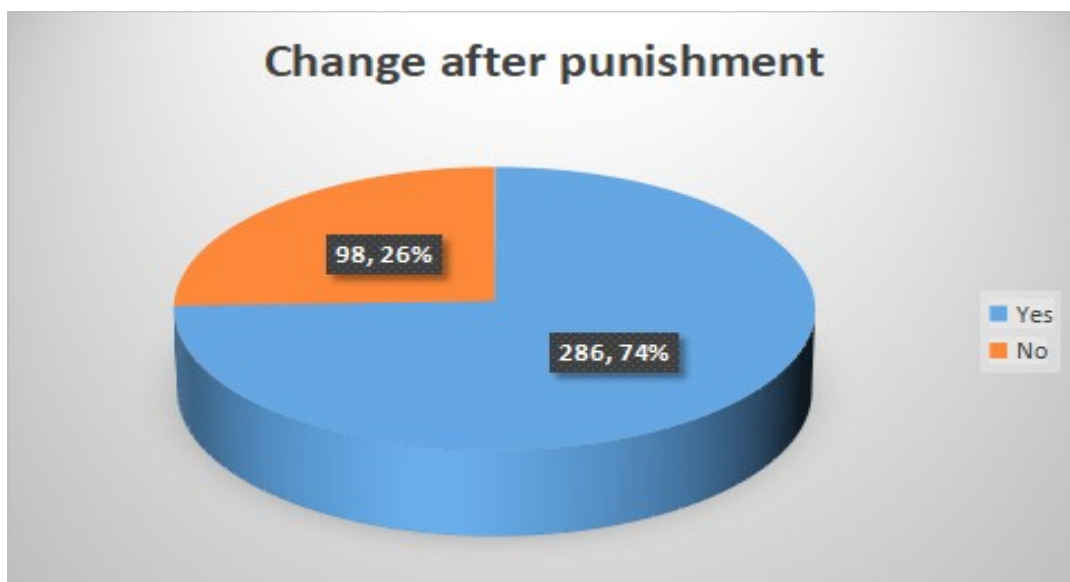


Fig 6.3 Change of students after punishment.

Source: Field Data, (2023)

The findings in Fig 6.3 reveal that 286(74%) of respondents agreed that students do change from deviant behavior after punishment while 98(26%) disagreed. This implies that most respondents feel punishment reduces level of deviance in schools.

The findings were supported by interview with teachers;

Some of the students who were punished for deviance have changed greatly. They were suspended for two weeks, came back with parents and issues were sorted. The lesbians were punished after accepting their mistake. Currently, they are the top performers in schools. It requires the right attitude even when punishing them. We normally talk with them first so that they realize their own mistakes and gives us the history behind their actions. We treat them with love. Though its hard for them to open up. Mostly we finds the problem emanate from the family issues or background. (interview with GAC teachers, 13.5.2023)

However, the few feels punishment leads to more deviance behavior as students become used to it. This was also supported during FGDs where most respondents stated that;

The form of punishment in this school is too severe to an extent some still resort to misbehave...some get use to punishment thus don't change. Mostly, those involve in drug and substance abuse, they cant go without it thus would prefer punishment but still use the drugs. We think guidance and counseling is the best option than corporal punishment. (Interview with FGDs discussant, 15.05.2023)

Mito (1996:20-21) along the same line of thought noted that the way schools handled problems relating to student indiscipline were common and included guidance and counselling, corporal punishment, manual work, reprimand, suspension and expulsion. The nature of punishment was one of the causes of disciplinary problems (Mito, 1996:22). Achieng (1996) and Njeru (1996) found that corporal punishment, manual punishment, suspension, expulsion, prosecution, fines, reprimand, guidance and counselling were used to deal with the violence.

6.4 Trained on fire safety equipment

The study sought to examine the strategies adopted in mitigating fire disasters by looking at whether students were being trained on fire safety measures in schools. The findings are as shown in Fig 6.4.



Fig 6.4: Trained on how to use fire safety equipment

Source: Field Data, 2023

The study found out that those who said they have been trained were 121(31.5%) while those not trained were 263(68.5%). This implies that most schools are not well prepared for fire emergencies since they are not trained on how to handle fire emergencies.

This was in line with interview with key informants;

Hardly do we get trained on issues of fire fighting. Since I came to this school, I have never seen teachers or students trained on issues of fire safety. We have fire brigadier within the county but hardly do they come to train us. During fire, they can not even access the building because of poor infrastructure and planning. (Interview on 17/05/2023).

However, interview with county director of education officer in charge of quality assurance and county fire department elicited contrary view;

Some teachers are usually trained on issues of dealing with fire. We have issued safety guidelines and regulations which should be followed. Teachers don't know how to use them. (interview with quality assurance officer, MOE on 15.5.2023)

Contrary according to teachers they stated that, we have never been trained on issues of fire safety and even how to use the safety equipment. The ministry is not supporting the schools. Even the county government is not providing safety training and fire to our schools. We are required to pay for the services individually. (Interview with teachers, 18.5.2023)

This finding was also confirmed during the FGDs and KIIs, who stated that;

I have never seen or heard of any fire safety policy guidelines being mention either in assembly or class since I joined this school"; "I only see those fire equipment in our hostels, but I do not know how to use them; "have not

heard anybody mention such a thing as a fire exit plan in this school and this is my form three” were noted during the discussions.(Interview with FGD and KII, 19.5.2023)

During key informant interview,;

Since I came to this school, rarely have been trained on issues of safety. Both teachers and students don’t know how to even use fire extinguishers. The basic we know as safety measure is putting off the main electric line..this we learned in secondary. But training of how to handle fire disasters, types of fires we don’t know. (Interview with Teachers, 14/5/2023)

Makhanu (2009) observes that fire and safety departments in most learning institutions are non-existent or members are not trained or equipped to fight a fire in the school. This could either be as a result of naturalist attitude that God would take care of all unpredictable disasters or could be as a result of sheer negligence or both. The safety of school occupants will be enhanced if staff knows what to do both before and during an outbreak of fire or other emergency. This can be achieved by ensuring that staff including temporary and part-time personnel receives appropriate instruction and training. All new entrants to a school be they students pupils, staff or support staff, should be conducted around the primary escape routes of the school. They should also receive instruction on the school fire evacuation routine and receive instruction and training appropriate to their responsibilities in the event of any emergency.

Makhanu (2009) added that all members of staff should each receive a personal copy of prepared written instructions as well as receive verbal instructions given by a competent person. Such instruction shall include details of how to call the Fire Brigade. A record of the training and instructions given and fire drills held shall be entered in the log book and will include the following: date of the instruction or fire drill, duration, name of person

giving instruction, name of the person receiving instruction, nature of instruction or fire drill. Fire drills, which may be combined with the instruction given above, should be carried out at least once per term. The fire drill should simulate that one escape route is not available. Each fire drill should be started by a pre-determined signal and the whole premises checked as if any evacuation was in progress. In large schools a specific person shall be made responsible for organizing staff training and to co-ordinate the actions of the staff in the event of fire. Effective arrangements should be made for a deputy or deputies to carry out the above duties in the absence of the nominated persons. The fire safety policy guideline requires that fire drills to be done twice every term.

The results further were corroborated by Makhanu (2009) adds that firefighting facilities and other life saving devices should be clearly displayed where they can be easily spotted even when one has panicked. Teachers, learners and the support staff should be routinely trained on how to use them. Learning institutions should also install automatic sprinklers, alarm and smoke detectors. There should be promptness in notifying the fire department officials for external assistance in case attempt to extinguish the fire overwhelms staff and students. Installation and maintenance process, including continuous inspection should be done to ensure safety and good condition of firefighting equipment. Fire brigadiers could be invited for such exercises as well as giving fire drills. However, most of secondary schools in Kenya have not been carried out these activities, thus in case of a fire disaster, schools are still ill prepared.

The findings were corroborated with the study carried out by Kishoyian *et al.*, (2021) which found that, 64.9% of the respondents did not know about the fire safety policy guidelines provided in the college. These findings were supported by a study

conducted by Vos et al., (2009), at Lowin; Belgium who found out those students had very low knowledge on their institution's fire safety policies and procedures which plays an important role in guiding occupants in a building to ensure fire safety and security.

Allen (2006), in his study at Philippines where he found out that students in the learning institutions had very little knowledge on available fire management policies and procedures put in place to enhance their fire disaster preparedness. On the same study, 79.8% of the respondents reported that they were not trained on fire disaster management when they joined the college. This is similar to findings in a study conducted by Sabramaniam (2004), which observed that students were not being trained on fire disaster preparedness as soon as they reported to their institutions. Similar findings were observed in the study conducted by Baaack ST (2011), at Texas Nursing School which showed that fire emergency preparedness training was rarely offered in many learning institutions. Therefore, delay in fire safety training can easily undermine the full capacity of students to respond well during fire emergency events. Thus, it is paramount for students to be trained immediately they join various institutions of learning in order to empower them to prevent and/ or respond to any fire incidence. Overall, the study observed that the students had inadequate knowledge of all the provided procedures in the fire safety policy guidelines.

The study finding made contrary observation against Ole Kiyiapi, who stated that "private firms will conduct training of principals on how to handle disaster management equipment such as fire extinguishers and first aid kits. It will also be mandatory for schools to conduct drills that will ensure safety and test the preparedness of an institution in case of a disaster. Students will use the first two days of a term to conduct emergency

drills to ensure that they are prepared to handle disaster”. Kenya National Fire Brigade Association (Kenfiba) proposed that primary and secondary schools to include fire education into their curriculum. This move was prompted by deaths and injuries from a recent fire incident in schools. Further, this association expressed willingness to teach staffs and students on fire education.

Oduor (2012) observes that the Education ministry developed suggestions that classrooms should accommodate up to 40 students to minimize overcrowding and to provide a favorable environment for students to learn. Fire calamities are popular in learning institutions locally (MOEST, 2001). Disaster exposure to institutions of learning can be attributed to several factors such as failure to have safety procedures including lack of exit points, lack of firefighting tools, and inadequate disaster handling facilities among others.

6.5 Strategies employed in fire disaster preparedness in schools.

The study further examined the fire preparedness strategies that schools should employ in mitigating fire disasters by investigating strategies that can be employed. The findings are as shown in Table 6.3

Table 6.3 Strategies employed in fire disaster preparedness in schools.

Preparedness strategies	Frequency	Percentage	Ranking
Fire drills	213	55.5	2
Capacity Building	123	32	4
Adequate firefighting equipment	331	86.2	1
Trainings	189	49.2	3
Ungrilled windows	97	25.3	6
Evacuation plans	73	19	8
Inspections of fire equipment	101	26.3	5
Safe guide policy implementation	86	22.4	7

Source: Field data, 2023

The findings in Table 6.3 indicate that 213(55.5%) of students said fire drills, 123(32%) of students said capacity building, 331(86.2%) of students said adequate firefighting equipment, 189(49.2%) said trainings, 97(25.3%) said ungrilled windows, 101(26.3%) while 73(19%) said evacuation plans and finally, 86(22.4%) of students said safe guide policy implementation. This implies that 86.2% agreed that adequate firefighting equipment was the most preferred strategy to be employed in schools followed by fire drills then trainings.

This was in line with interviews with teachers;

Most schools don't have firefighting equipment, trainings and even fire drills has never been done. When we are faced with fire disasters in schools, we don't know what to do mostly. Our infrastructures are poorly constructed and planned. We don't have evacuation plans. In our school, we have grilled windows, dormitories cant be easily access. (Interview with Teachers, 20.05.2023)

Contrary, according to MOE quality assurance officer;

The ministry of Education leadership within the county and local stakeholders and political leaders have had a number of trainings to combat fire disasters. In partnership with national government, county is doing policy legislation on emergency that will address such issues on law breakers within the school and society. (Interview with MOE Quality assurance officer, 17.5.2023).

The county government in partnership with redcross, fire department and other stakeholders should ensure fire drills and capacity building are done to all teachers and students. We have only one fire brigadier in the county. Each sub county should be issued with one (Interview with chiefs, BOM, PTA and Deputy principals, 19.5.2023).

Also put up a place for fire station and equipment in case of fire outbreak at every sub county headquarters. Emphasis on trainings and drills in all schools in Bungoma county (interview with Teachers and deputy principals on 16.05.2023)

According to Makhanu (2009), schools around the country have failed to emphasize installation of fire fighting equipments, alarms and first aid kits. Vulnerability of schools to fire tragedy is usually attributed to some factors such as, construction materials may not be resistant to fire. Secondly, they may lack fire fighting equipments or the equipments may not be operational such as installed ventilators that are not operational, exits that are permanently locked or are blocked, grilled windows, lack of installed alarm systems, inadequate fire fighting facilities such as fire extinguishers, doors that open inwards, such that in case of an emergency majority of students pushing the door would jam it and eventually get caught up by fire.

Mwenga (2008) on a study to establish the safety preparedness of secondary schools in Kyuso District, Kenya established that in this district there are no adequate fire fighting equipments in the schools as majority, 43% had between 1 - 5 fire fighting equipments.

In addition, the number of fire fighting equipment, fire fighting points and first aid kits were found to be un-proportional to the size of the schools and the number of students hence inadequate to deal with any emergency. The schools rarely trained their students on safety measures as indicated by 44.5%, hence the students were not well-equipped with necessary training needed to handle emergencies in the schools. In addition, the members of staff and school matrons were not well-trained on fire fighting techniques since only 56.0% were fairly trained.

The study further was augmented by Torrington, Hall and Tayloy (2008) emphasized the importance of training. They insisted that training create awareness of the regulations and improve discipline in the school environment. Training for school administrators', teachers' school safety officials, school staff, parents, and the community agency partners aids in learning how to prevent insecurity cases. The training sessions are workshops, seminars, and table meetings on crisis preparedness. Training enables schools to be aware of any danger and prepare in advance on how to prevent it before it worsens and destroys property. Schools fire drills prepare students for what they need to know in case of a fire outbreak and they enable the staff and students to escape in advance (Comolloti 1999). While training are necessary it is also good to have group brainstorming activities that can be conducted informally at a round table.

The findings also concur with Mwangi (2014) that most members of staff and all students have not been trained in fire disaster risk reduction. The safety of the school depends largely on the measures taken to organize and manage such safety. In this respect, School Management Committee/Board of Governors, the head teacher, teachers, learners,

parents and representative from area education office have significant duties to play in facilitating and enhancing safety in schools. Nonetheless the direct responsibility of overseeing school safety should follow within a specific School Safety Committee (MOE, 2008).

6.6 How often do teachers talk about fire safety in school

The study sought to analyze the frequency on which teachers talk about fire safety in schools. The results are as shown in Fig 6.6.

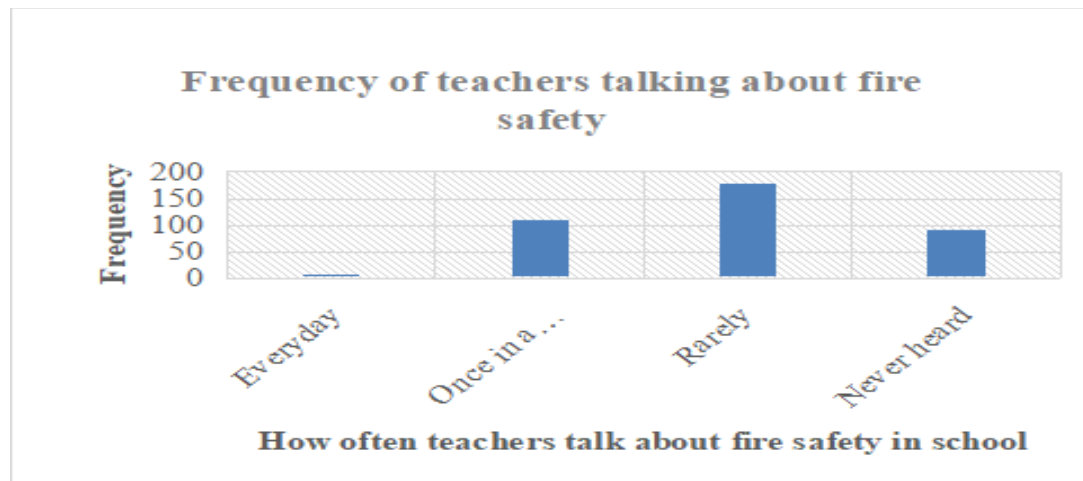


Fig 6.6 How often teachers talk about fire safety

Source: Field Data, 2023

The study findings Fig 6.6 reveal that 6(1.6%) of respondents said teachers talk about fire safety everyday, 109(28.4%) said once in a while, 177(46.1%) said rarely while 92(24%) of respondents never heard teachers talk about fire safety. This implies that most schools have failed in creating awareness, teaching and educating both students and fellow teachers on the essence of fire safety and preparedness. Failure of teachers to talk about

fire safety regularly implies that most schools have not adequately identified possible security loopholes hence they are not well prepared in case of a fire disaster. The schools have no plans or measures of creating awareness or educating members of fire safety.

These results were supported by Makhanu (2009), who observes that fire and safety departments in most learning institutions are non-existent and members are not trained or equipped to fight a fire in a school. This could be as a result of sheer negligence. The safety of students will be enhanced if staff and students know what to do before, during and after an outbreak of fire or other emergency. This can be achieved by ensuring that staff, students and other school stakeholders receive appropriate training in fire disaster risk reduction. School physical facilities should be appropriate and adequate and properly located devoid of any fire disaster sign. Failure to adopt all legal requirements for disaster risk reduction has caused the country loss of innocent boys and girls in school fire tragedies. For example, all the 67 boys who died in the Kyanguli fire tragedy were in a poorly maintained and overcrowded barracks style dormitory. One of the doors of the dormitory was locked from outside and all its ten windows were grilled. There were no fire extinguishers installed on the building. If the dormitory had big doors and windows without grills, many boys would have escaped the fire before the roof fell in (Rowan, 2001).

The study findings were further supported by Makhamu (2009) life saving devices such as firefighting equipment among others must be displayed where they are visible. In this respect, students, teachers, and other staffs should be frequently reminded of such devices and how to use them. To ensure safety standards are maintained, periodic construction, installation and maintenance of safety equipment must be done. Subsequently, safety

committees comprising of teachers should be formed with their duties and roles clearly defined and summarized. Overall, the functions these committees include inspection, audit and accidents prevention and teachers play central roles in the school operations.

Increasing awareness has been paid on the fundamental roles of school and school education to provide the suitable channels for students to acquire knowledge regarding natural disasters (Reyes *et al.*, 2011), to equip students with needed skills to response properly to the natural hazards that they face (Fernandez, 2012), and to link students to their locality in a way that community resilience can be built in a sustained way (Shaw *et al.*, 2011b).

Crooks *et al.* (2008) state that support from various key stakeholders including the ministry and school board plays a significant function in the successful execution of school safety program. Furlong *et al.* (2006) argued that “once the ministry and the school board make school safety program their priority, they will put effort to provide and organize the funding; staffing; training and professional development and resources required for the implementation of school safety programs. “Besides, Creswell (2013) says that “such support may be obtained from other organizations such as educators, recreational organizations and community to support and finance the school safety program implementation and sustainability.”

Armstrong (2009) adds that it is the responsibility of the management to develop safety policies, implement them, and also ensure that protocols for conducting safety audits and inspections, and assessments of risk are executed. He further argues that it is the responsibility of the management to evaluate and monitor safety performance and implement necessary actions. Many safety programmes of companies only address the

symptomatic or direct causes of accidents and never really identify the root causes. It is management policies, procedures, practices and priorities that control the 75% of workplace accidents (Mearns, *et al.*, 2003). “Supervisors also play a critical role in ensuring safety in the workplace and employees conform to safety rules and procedures when they perceive that the action of their supervisor was fair” (Yule, *et al.*, 2007). Previous studies have observed that “supervisors who demanded more work from their workers demonstrated negative influence on safe atmosphere, whereas the supervisors who delegated job tasks motivated employees to acknowledge their safety accountability” (Yule *et al.*, 2007).

6.7 Basic Knowledge of First Aid

The study investigated whether respondents had some basic knowledge on first aid to assist during fire disasters. The findings are as shown in Fig 6.7.

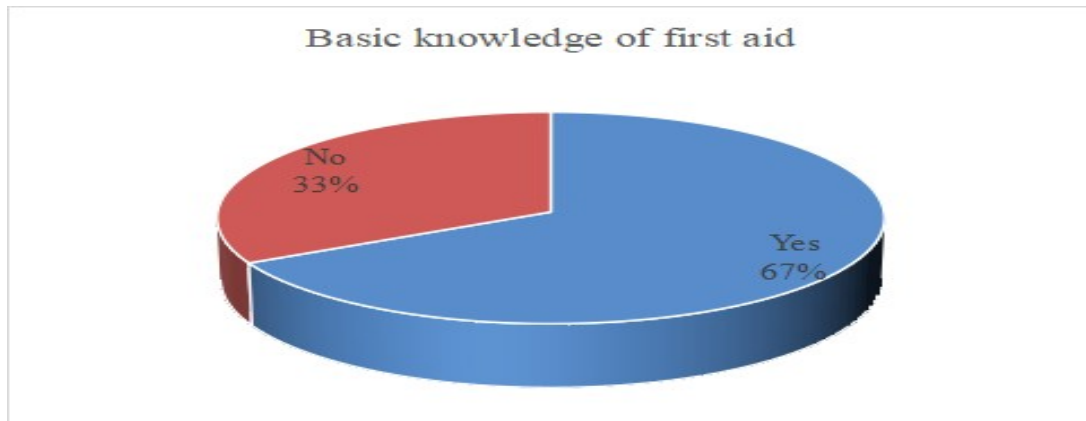


Fig 6.7 Basic Knowledge of first aid

Source: Field Data, (2023)

The findings in Fig 6.7 show that 258(67%) of respondents had basic knowledge of first aid while 126 (33%) had none. This indicate that most schools have some basic knowledge of first aid. However, it also implies that some schools may not adequately offer first aid in case of fire disaster due to lack of first aid supplies, this shows lack of fire safety preparedness.

This finding were corroborated by key informant interview with scouts;

We have first aid equipment but only a few are trained on how to use them. We the scouts, normally train our fellow students to know some basic first aid. The kits are not even enough and mostly we don't have extensive training on doing major first aids. (interview with teachers on 15/05/2023.)

This was evident in most interviews with guidance and counselling teachers;

When I came to this school, I was appointed by the administration to head guidance and counseling department. I am just an English and literature teacher with no basic no knowledge of first aid, counseling...but I could not refuse because the boss has said. The ministry does not offer training or capacity building to us. Sometimes, certain organizations does the training but we carter the cost, thus most don't attend (interview with guidance and counseling teacher, 15/5/2023)

This report is in line with observation checklist where first aid supplies were found to be inadequate in most schools. This implies that majority of the schools cannot adequately offer first aid services in case of fire emergency since the supplies are inadequate. The study found out that teachers were just selected to head guidance and counseling department without basic knowledge.

This finding was supported by study by Kirui et al., (2011) revealed that about (89.9%) of schools had a guidance and counseling department. However, more than 40% of these departments were run by teachers without skills on guidance and counseling. Kukali (2009) notes that lack of basics concerning emergencies or the measures to take in the event of calamity is to blame for a large number of fatalities. Staff and students should participate in an emergence drill constantly to gain skills and to understand the dynamics of emergence calamities - what to expect and how to counter emergencies efficiently. In most cases, this rarely happens in the local schools. They tend to wait until something happens then they engage in unnecessary blame games.

6.8 Chapter Summary

The study findings revealed that most schools had fire extinguishers 371(96.6%), while those not having were 13(3.4%), fire assembly were 209(54.4%) while those not available were 175(45.6%), first aid kit 287(74.7%) while those not having were 97(23.3%). This indicates that most schools were not fully equipped to handle fire disaster. This is lack of fire safety preparedness.

The findings revealed that 268(69.8%) of respondents agreed that they can use fire extinguishers while 116(30.1%) don't know how to use, 106(27.6%) can use fire alarms while 278(72.4%) can not use fire alarms. The further established that, 208(54.2%) can use fire assembly points while 176(45.8%) can not use fire assembly points, 176(45.8%) can use fire exists while 208(54.2%) can not use fire exists. The study also revealed that 48(12.5%) of respondents can use smoke detectors while 336(87.5%) can not use, 263(68.5%) of respondents can use first aid kits while 121(31.5%) can not use. Further,

the indicated that 52(13.5%) of respondents can use fire horse reels while 332(86.5%) can not use, 144(37.5%) can use fire buckets while 240(62.5%) can not use, 140(36.5%) of respondents can use fire blankets while 244(63.5%) can not use.

The study found out that those who said they have been trained were 121(31.5%) while those not trained were 263(68.5%). This implies that most schools are not well prepared for fire emergencies since they are not trained on how to handle fire emergencies. The study findings revealed that 6(1.6%) of respondents said teachers talk about fire safety everyday, 109(28.4%) said once in a while, 177(46.1%) said rarely while 92(24%) of respondents never heard teachers talk about fire safety. This implies that most schools have failed in creating awareness, teaching and educating both students and fellow teachers on the essence of fire safety and preparedness.

The findings in Table 6.3 indicate that 213(55.5%) of students said fire drills, 123(32%) of students said capacity building, 331(86.2%) of students said adequate firefighting equipment, 189(49.2%) said trainings, 97(25.3%) said ungrilled windows, 101(26.3%) while 73(19%) said evacuation plans and finally, 86(22.4%) of students said safe guide policy implementation. This implies that 86.2% agreed that adequate firefighting equipment was the most preferred strategy to be employed in schools followed by fire drills then trainings.

The findings showed that 258(67%) of respondents had basic knowledge of first aid while 126 (33%) had none. This indicate that most schools have some basic knowledge of first aid. The next chapter provides summary, conclusions and recommendation of the study, chapter seven.

CHAPTER SEVEN: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary

Chapter four investigated the nature and extent of deviant behavior among students in schools. The study revealed that male were 222(57.8%) while female were 162(42.2%). This showed that majority (57.8%) of the respondents were male thus translating that male are the mostly affected in terms of deviant behavior and school fires. The study revealed that 13-15years of respondents were 65(16.9%), 16-18years were 244(63.5%) and 18-20years were 75(19.5%). These findings reveal that majority of the respondents were age group 16-18years. This indicate the ideal age for secondary students. The results indicate that majority of the respondents were mature enough to understand and answer the questionnaires appropriately in regards to student deviant behavior and recurrent fire disasters in schools within Bungoma County.

The study revealed that form one were 20(5.2%), form two were 40(10.4%), form three were 137(35.7%) while form four were 187(48.7%). These findings shows that cumulatively 324(84.4%) of the respondents were form three and form four. The findings showed that respondents from boys boarding were 175(45.6%), girls boarding were 88(22.9%), Mixed day were 76(19.8%) while mixed day and boarding were 45(11.7%). The results indicate boys boarding were the majority of the respondents followed by girls boarding then mixed day.

The findings indicated that respondents who agree that there are cases of indiscipline in school were 332(86%) while those who said No were 52(14%). Majority of the respondent (86%) agreed that there cases of indiscipline in schools while the few who said no can be attributed to form one who have not stayed long in school to have an experience of such cases in school.

The findings revealed that respondents who said drug and substance abuse were, 249(64.8%), bullying other students were 227(59.1%), attack on teachers were 94(24.5), sneaking out of school 301(78.4%), theft of other students property were 363(95.6%), damage of school property 271(70.6%) while riots in school were 147(38.3%). The results indicate that theft of other students property (95.6%) was the most form of deviant behavior among students followed by sneaking out of school 78.4% and thereafter, damage of school property at 70.6%. The least experienced form of deviant behavior was attack on teachers or other adults at 24.5%.

The findings revealed that respondents who said drug and substance abuse were, 249(64.8%) while those who disagreed were 135(35.2%). The findings revealed that 147(38.3%) of respondents agreed that students go on riots while 237(61.7%) disagreed. This shows that majority of schools never go into riots. The study findings revealed that 227(59.1%) of respondents agreed that there are bullying in schools. The findings of the study revealed that 363(95.6%) of respondents agreed that there is high theft cases among students to their fellow colleagues.

The findings reveal that 97(25%) of students agreed to very large extent, 152(40%) said large extent, 67(17%) said small extent, 49(13%) said very small extent while 19(5%) said I don't know. This implies that cummulatively 65% of students agreed that drug and

substance abuse to large extent influences the behavior of students thus leading to deviance.

The findings reveal that 163(42.4%) of students said to large extent, 105(27.4%) said very large extent, 59(15.4%) said small extent, 30(7.8%) said very small extent while 27(7%) said I don't know. This implies that cummulatively 69.8% of the students agreed that students with rogue behaviors influences other students to join them in their behaviors.

The findings revealed that 320(83.3%) of respondents agreed that Peer pressure/bad influence make students engage in rogue behaviors, 229(59.6%) agreed on social media influence, 228(59.4%) agreed on don't care attitude, 211(54.9%) agreed on behaviors carried from home while 206(53.6%) agreed on drug abuse. The study also found out that 166(43.2%) disagreed on influence from the society making them engage in rogue behaviors, 128(33.3%) disagreed on mass media, while 115(29.9%) were not sure whether behaviors carried from home influences students to engage in rogue behaviors. The study findings indicated that 295(77%) agreed that students with rogue behaviors influences other students while 89(23%) disagreed.

Chapter five examined the causes of the recurrent fire disasters in schools. The study findings revealed that 291(76%) of respondents agreed experiencing fire disasters in school while 93(24%) disagreed experiencing fire. This implies that majority of respondents have experienced fire disasters in school attributed to their long stay or the school have history of fire incidences every year. The findings of this study shows that, (93%) of the respondents have heard about fire outbreak in other schools while 7% disagreed.

The study findings revealed that 344(90%) of respondents have heard about arson by students while 40(10%) disagreed. This implies that in most incidences, students have been involved in burning of schools. The study findings revealed that 253(65.9%) of respondents said they have experienced 1-5 incidences of fire, 89(23.2%) said more than 5 incidences while 42(10.9%) said zero incidences. This implies that majority of respondents have experienced between 1-5 fire incidences.

The finding revealed that 70(18.2%) of respondents said smoking in school compound was common, 145(37.8%) said not common while 169(44%) don't know. The finding also reveal that 75(19.5%) said fire spreading from burning of litter was common, 225(58.6%) said not common while 83(21.6%) don't know. The study further established that 246(64.1%), 88(22.9%) said not common while 50(13%) said they don't know. Also, the study found that 203(52.9%) of respondents said negligence by school staff is not common, 151(39.3%) said they don't know while only 30(7.8%).

The study findings revealed that 214(55.7%) of respondents said poor management of schools, 92(24%) disagreed while 78(20.3%) said they don't know, 205(53.4%) said overloaded curriculum, 155(40.4%) disagreed while 24(6.2%) said they don't know. The study also noted that 332(86.5%) agreed on peer pressure, 25(6.5%) disagreed while 27(7%) said they don't know. Further, the finding show that 302(78.6%) agreed on drug and substance abuse, 42(10.9%) disagreed while 40(10.5%) said they don't know. The study also noted that 180(46.9%) agreed on incitement from the local communities, 156(40.6%) disagreed while 48(12.5%) said they don't know. Further, the study established that 159(41.4%) agreed on exam fever, 143(37.2%) disagreed while

82(21.4%) said they don't know. Also, the findings reveal that 163(42.4%) agreed on low morale among teachers leading to student incitement.

The study findings revealed that 98(25.5%) of respondents said tins with kerosene while 286(74.5%) disagreed, 121(31.5%) agreed on tins with petrol while 263(69.5%) disagreed, 174(45.3%) agreed on match boxes while 210(54.7%) disagreed. The study further established that 157(40.9%) agreed on alcohol bottles or sachets while 227(59.1%) disagreed, 142(37%) agreed on cigarettes or bhang while 242(67%) disagreed, and 120(31.3%) agreed on other ingestible or chewable drugs while 264(69.7%) disagreed. This implies that majority of respondents agreed that matches boxes have been found hidden which might have been used to ignite fire disasters in schools.

The study findings revealed that 291(76%) of respondents agreed that students can sneak out of school while 93(24%) disagreed. This implies that most schools have insecure or porous fences that enable students to sneak. The study findings revealed that 180(46.9%) of respondents said students sneak at night, 124(32.3%) said evening hours while 80(20.8%) said day time. This implies that majority of students sneak out during night period. The study finding revealed that 282(73.4%) of respondents said the students sneak through porous fences while 102(26.6%) said no. The study also indicate that 40(10.4%) of respondents said student collusion with staff while 344(89.6%) said no. Finally, the finding also reveal that 169(44%) of respondents said falsehood or pretence of sickness while 215(56%) said no. This implies that most students sneak out through porous fences due to poor security measures and high rate of deviance among students.

The findings revealed that 82(21.4%) of respondents agreed that fire disasters have caused deaths, 271(70.6%) disagreed while 31(8%) said they don't know. The study also noted that 257(66.9%) said injuries, 117(30.5%) disagreed while 10(2.6%) said they don't know. The study further established that 364(94.8%) said there are damage to school property, 17(4.4%) disagreed while 3(0.8%) said they don't know. They results also indicate that 359(93.5%) said destruction of students property, 21(5.5%) disagreed while 4(1%) said they don't know. The study further found that 237(61.7%) said financial burden, 131(34.1%) disagreed while 16(4.2%) said they don't know. Finally, the study established that 207(53.9%) agreed that fire causes psychological trauma, 75(19.5%) disagreed while 102(26.6%) said they don't know.

Chapter six evaluated the strategies to mitigate fire disasters in schools. The study findings revealed that most schools had fire extinguishers 371(96.6%), while those not having were 13(3.4%), fire assembly were 209(54.4%) while those not available were 175(45.6%), first aid kit 287(74.7%) while those not having were 97(23.3%). This indicates that most schools were not fully equipped to handle fire disaster. This is lack of fire safety preparedness.

The findings revealed that 268(69.8%) of respondents agreed that they can use fire extinguishers while 116(30.1%) don't know how to use, 106(27.6%) can use fire alarms while 278(72.4%) can not use fire alarms. The further established that, 208(54.2%) can use fire assembly points while 176(45.8%) can not use fire assembly points, 176(45.8%) can use fire exists while 208(54.2%) can not use fire exists. The study also revealed that 48(12.5%) of respondents can use smoke detectors while 336(87.5%) can not use, 263(68.5%) of respondents can use first aid kits while 121(31.5%) can not use. Further,

the indicated that 52(13.5%) of respondents can use fire horse reels while 332(86.5%) can not use, 144(37.5%) can use fire buckets while 240(62.5%) can not use, 140(36.5%) of respondents can use fire blankets while 244(63.5%) can not use.

The findings reveal that 286(74%) of respondents agreed that students do change from deviant behavior after punishment while 98(26%) disagreed. This implies that most respondents feel punishment reduces level of deviance in schools.

The findings revealed that respondents who agreed that deviant behaviors were punished were 372(97%) while only 12(3%) said no. The findings revealed that the corporal punishment/canning was very common 236(61.5%), followed by being sent to perform manual work 203(52.9%) and taken to police custody 189(49.2%). The study also found that isolation from school was not common 255(66.4%) while suspension from school was common 192(50%) followed by warning in case of minor offenses 118(30.7%). This implied that most schools have some forms of administering punishment to deviant students.

The findings indicate that 213(55.5%) of students said fire drills, 123(32%) of students said capacity building, 331(86.2%) of students said adequate firefighting equipment, 189(49.2%) said trainings, 97(25.3%) said ungrilled windows, 101(26.3%) while 73(19%) said evacuation plans and finally, 86(22.4%) of students said safe guide policy implementation. This implies that 86.2% agreed that adequate firefighting equipment was the most preferred strategy to be employed in schools followed by fire drills then trainings.

The study found out that those who said they have been trained were 121(31.5%) while those not trained were 263(68.5%). This implies that most schools are not well prepared for fire emergencies since they are not trained on how to handle fire emergencies. The study findings revealed that 6(1.6%) of respondents said teachers talk about fire safety everyday, 109(28.4%) said once in a while, 177(46.1%) said rarely while 92(24%) of respondents never heard teachers talk about fire safety. This implies that most schools have failed in creating awareness, teaching and educating both students and fellow teachers on the essence of fire safety and preparedness. The findings showed that 258(67%) of respondents had basic knowledge of first aid while 126 (33%) had none. This indicate that most schools have some basic knowledge of first aid.

7.2 Conclusions

Based on the conclusions, the study makes the following recommendations according to the specific objectives.

In regards to specific objective one; the study, concludes that most of the schools have experienced forms of deviant behavior among students which might have led to recurrent fire disasters in schools. The study further, concludes that, theft was the most serious type of deviant behavior experienced in all schools due to socioeconomic family background and peer pressure.

The study further concludes that, most schools had some form of administering punishment to deviant behavior among students, led by corporal punishment. Also, a greater percentage of students do change upon being given punishment. The study also,

concludes that peer pressure was the most cause of deviance among students followed by drug and substance abuse.

In regards to specific objective two; the study concludes that most schools have experienced fire disasters, while most students have also heard of fire disasters in other schools. The study concludes that, most schools have had arson while majority of respondents have experienced fire disasters between 1-5 fire incidences. The study further concludes that, electric faults is the major cause of school fires. Also, peer pressure among students is the leading factors of students burning of schools followed by drug and substance abuse.

The study further concludes that, most schools have not found items hidden in school compound thus attributes fires to other factors. Most schools have porous fences which allows for greater chances of sneaking out. The concludes that, sneaking is done mostly at night.

In regards to specific objective three; the study concludes that most schools have fire extinguishers which few and either expired or unserviced for long time. The study also, concludes that, most schools are not well prepared for fire safety. The study concludes that, most students and teachers don't know the function of most fire safety equipment and how to handle them in case of fire. The study concludes that, school administration having open communication with students is the best solution to deviance among students in schools followed by counseling.

The study further concludes that most schools are not well prepared for fire emergencies since they are not trained on how to handle fire emergencies. This implies that most

schools have failed in creating awareness, teaching and educating both students and fellow teachers on the essence of fire safety and preparedness.

7.3 Overall Conclusion

Fire disaster has become a global prevalent disaster experienced in most public and private secondary schools and other learning institutions with likely no country is exempted from this disaster whether developed or developing. The frequent fire incidences in schools with Bungoma County are therefore, major concern for all education stakeholders especially considering that some element of rogue behavior and incitement among students have been pinpointed as major causal factors for these problems.

Therefore, the overall conclusion of this study was that deviant behavior among students have multifaceted causes which leads to recurrent disasters in schools. Societal influences have a greater impact on the behaviors of students.

7.4. Recommendations

In regard to objective one, the study recommends that psychological , behavioural factors ,drug abuse, family and society problems play greater contribution on student unrests and rioting .Guidance and counselling ,with professional experts need to be done in schools actively to address psychotic and psychosocial problems in students. The government through the Ministry of Education should provide financial support to schools to allow school Heads manage the department in Secondary schools in Kenya ,financial provision

should be a policy for guidance and counselling activity in schools. Professional counsellors should be deployed full time to all schools . Also, in partnership with the National government, county government of Bungoma should on policy legislation on emergency that will address issues such as deviance behaviors in schools and within the society.

In regard to objective two, the study recommends that proper awareness creation and needs assessment of students should be done. There is need to embrace technology like installation of CCtv cameras in schools and also training more teachers and students on issues relating to fire disasters in schools coupled with fire drills. Proper infrastructural systems should be implemented in schools to ease access and rescue. Also, to put in place fire station in every sub county in readiness for any fire disasters.

In regard to objective three, the study recommends that the ministry of education should introduce the disaster preparedness theory and practice into schools and training institutions' curriculum at all levels to equip stakeholders with adequate skills for prevention and management of disasters. The biggest reason pointed out that effective policy formulations, review and changes in any sector of the society may at times meet stiff opposition from target stakeholders irrespective of their importance. Ministry of Education should run consultative decision -making methods on policy changes in secondary schools. This reduce expected negative reactions by different stakeholders, students inclusive. Policies and guidelines on fire safety should be backed by law and an effective monitoring of safety guidelines conducted if proper fire disaster management is to be realized.

7.5 Suggestions for further Study

1. The researchers study further examine the influence of socioeconomic factors on students deviant behavior.
2. The study investigated the causes of recurrent fire disasters in schools. Further study should be done to establish the role of community on the recurrent fire disasters in public secondary schools.

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APPENDIX 1: Questionnaire for Students

Section A: General information

1. What is your gender? (Tick appropriately) A) Male..... B) Female.....
2. Age (Tick appropriately)
13-15
16-18
18-20.....
3. Which class (form) are you? Tick appropriately
Form 1.....
Form 2.....
Form 3.....
Form 4.....
4. School type (Tick appropriately)

Boys boarding.....
Girls boarding.....
Mixed day school.....
Mixed day and Boarding.....
Other (Specify).....

Section B: Nature and extent of deviant behavior among students in schools within Bungoma County

5. Have you heard about cases of indiscipline in the school since you started studying in this School? (Tick appropriately) Yes.....No.....
6. Among the cases of indiscipline that you have seen or heard about in the school have you seen/heard any of the following cases among fellow students? (Tick appropriately)

Deviant behavior experienced in school	Yes	No
Drug and substance abuse		
Bullying other students		
Attack on teachers or other adults in school		
Sneaking out of school		
Theft of other students property		
Damage of school property		
Riots in school		

7. What is the nature and extent of cases of indiscipline in schools
 8. What are the types of drug and substance commonly abused in schools?
 9. What is the nature and extent of theft cases in schools?
 10. In your opinion, why do students engage in rogue behaviors (Tick appropriately)

Causes of Deviance	Agree	Disagree	Not sure
Behaviors carried from home			
Peer pressure/Bad Influence			
Social media influence (facebook,IG,whatsapp)			
Drug abuse			
Mass media (Radio and TV)			
Influence from the Society			
Desire to feel heroic among peers			
Don't care attitude			

11. Do students who have rogue behaviors influence other students to join them in the deviance? Yes.....No.....(Tick appropriately)

SECTION C: CAUSES OF THE RECURRENT FIRE DISASTERS IN SCHOOLS WITHIN BUNGOMA COUNTY

12. Have you experienced any fire outbreak in the school since you started studying in the school? Yes.....No.....(Tick appropriately)

13. Have you ever heard about fire outbreak in other schools apart from your school?
 Yes.....No.....(Tick appropriately)

14. Have ever heard of cases of Arson/Burning of schools by students?
 Yes.....No.....(Tick appropriately)
 15. How many incidences of school fires have you heard about in school since you started studying in this school

Number of incidences	Tick one
0	
1-5	
More than 5	

16. Apart from arson, have how common are the following causes of fire in schools?

Causes Fire	Common	Not common	Don't know
Smoking in school compound			

Negligence by school staff in Kitchen			
Electric faults			
Fire spreading from burning of litter			

17. Which of the following factors do you think make students burn school/school property?

Factors that make students burn school/school property	Agree	Disagree	Don't Know
Poor management of schools			
Overloaded curriculum			
Low morale among teachers leading student incitement			
Peer pressure			
Drug and substance abuse indiscipline			
Rampant expulsion of students			
Moral decay in society			
Abolition of corporal punishment			
Exam fever			
Incitement from the local community i.e against new principals/ Teachers			

18. Have the following Items even been found hidden in the school compound/ dormitories

Items	Yes	No
Tins with Kerosene		
Tins with Petrol		
Match boxes		
Alcohol bottles/sachets		
Cigarettes/Bang		
Other ingestible/chewable drugs		

19. Is it possible for students to sneak out of school? Yes.....

No.....(Tick appropriately)

20. At what time is there high possibility of students sneaking out unnoticed? (Tick

appropriately)

a) Day time.....

b) Evening hours.....

c) At night.....

21. What are the most common routs students use to sneak out of school?

How students Sneak out of school	
Porous fences	
Collusion with Staff i.e security at the gate	
Falsehood/Pretence i.e faking sickness	

22. Which of the following impacts have school fires caused in your school

	Yes	No	Don't know
Deaths			
Injuries			
Damage of school property			
Destruction of students property			
Financial burden to parents			
Psychological trauma			

SECTION D: STRATEGIES TO MITIGATE FIRE DISASTERS IN SCHOOLS WITHIN BUNGOMA COUNTY

23. Does your school have the following fire management equipment's and Installations?

Equipment's and Installations	Available	Not available
Fire extinguishers		
Fire Alarms		
Fire Assembly points		
Fire exits		
Smoke detectors		
First Aid Kits		
Fire horse reels		
Fire buckets		
Fire blankets		

24. Among the equipment's and Installations that exist in your school do you know how to use any of them? Indicate by ticking one that you can use

Equipment's and Installations	I can use (Demonstrate)	I cannot use
Fire extinguishers		
Fire Alarms		
Fire Assembly points		

Fire exits		
Smoke detectors		
First Aid Kits		
Fire hose reels		
Fire buckets		
Fire blankets		

25. Were the students punished for the deviant behaviors ? (Tick appropriately) Yes.....No.....

26. What is the most common form of punishment that you see in your school? (Tick appropriately)

Type of Punishment for Deviant behaviors	Very Common	Common	Not Common
Expulsion from School			
Suspension from school			
Corporal Punishment/Canning			
Being sent to perform manual work			
Being sent home to bring parent/guardian			
Warning in case of minor offences			

27. After punishment do the students change for the better? (Tick appropriately) Yes.....No.....

28. Which of the following strategies should be employed

Type of strategy	Agreed	disagreed
Fire drills		
Adequate firefighting equipment		
Evacuation plans		
Policy guide implementation		

29. How best can deviance be reduced in schools? (Tick appropriately)

Solutions to Deviance	Yes	No
Counselling		
Expulsion		
Involving Parents		
Providing less severe Punishment		
School administration having open communication with students		

30. Have you ever been trained on how to use fire safety equipment's in your school? Yes.....No.....(Tick appropriately)

31. How often do teachers talk about fire safety in the school (Tick one option)

Everyday

Once in a while.....

Rarely.....

Never heard

32. Do you have basic knowledge of first aid in case some gets burns?

YesNo.....

33. What do you think can be done to avoid fire disaster in your school?

Masinde Muliro University of Science and Technology (MMUST)
School of Disaster Management and Humanitarian Assistance (SDMHA)
Department of Emergency Management Studies (EMS)

**Statement of Informed Consent for Principal/Teacher in
Charge/Guardians of Minors in Target/Sampled Secondary Schools
within Bungoma County**

*The Nexus Between Deviant Behavior among Students and Recurrent Fire Disasters in
Schools within Bungoma County, Kenya*

DETAILED STUDY INFORMATION

Students in your school are being asked to be in a research study titled: ***The Nexus between Deviant Behavior among Students and Recurrent Fire Disasters in Schools within Bungoma County, Kenya***. This study is being conducted in secondary schools within Bungoma County. This study is being conducted by **Mr Tony K. Barasa** under the Supervision of **Dr F. Nabiswa** and **Dr M. Pepela** in the Department of Emergency Management Studies at Masinde Muliro University of Science and Technology. Students in your schools were selected to be part of this study due to the strategic nature of your school in relation to this study.

Please read this consent form and ask any questions you have before providing consent for the students to be in the study.

PROCEDURES:

If you give permission for the students to be part of this study, they will be asked to do the following:

- i. Answer questions in the closed questionnaires in the student questionnaire(sample attached)
- ii. Students will be guided in answering the questions provided in the questionnaires
- iii. A few students will form part of the Focus Group discussions (FGDs)
- iv. For the purposes of the Focus Group discussions (FGDs) the researcher will do audio recordings

CONFIDENTIALITY:

The records of this study will be kept private and your student's confidentiality will be protected. In any sort of report the researcher(s) might publish, no identifying information will be included. Please be advised that although the researchers will take every precaution to maintain the confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of their fellow participants and not repeat what is said in the focus group to others.

Identifiable research records will be stored securely and only the researcher(s) will have access to the records. All data will be kept [in a locked filing cabinet in the researcher's office by the investigator(s). All study records with identifiable information, such as audio records, transcripts, and consent forms, will be destroyed by shredding and/or deleting after 1 year of the study. If audio recordings are made, they will be erased as soon as they are transcribed.

VOLUNTARY NATURE OF THE STUDY:

Participation in this study is voluntary and requires your informed consent. Your decision whether or not to have your students participate will not affect your current or future relations with Masinde Muliro University of Science and Technology or that of Principal Investigator. If you decide to have your students participate, they are free to skip any question that is asked. They may also withdraw from this study at any time without penalty.

CONTACTS AND QUESTIONS:

The researchers(s) conducting this study: **Tony K. Barasa, James O. Juma** and **Rodgers O. Ombeck**. If you have questions, **you are encouraged** to contact the researcher(s) at 0714516938, 0720469574 or 07127653356. The Institutional Review Board (Directorate of Postgraduate Studies) of Masinde Muliro University of Science and Technology has reviewed this Research Proposal. For any concerns regarding this study/or if you feel that your rights as a participant (or the rights of another participant) have been violated or caused you undue distress (physical or emotional distress), please contact the Director of Postgraduate Studies directordps@mmust.ac.ke

STATEMENT OF CONSENT:

I am 18 years of age or older. I have read and understood the above information. I give consent for my students to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Interview Guide for deputy Principals

1. How many cases of indiscipline in the school have you dealt with since you started teaching in this School?
2. What are some of the cases of indiscipline in schools
3. Were the students punished for the deviant behaviors?
4. What is the most common form of punishment that you see in your school?
5. After punishment do the students change for the better?
6. In your opinion, why do students engage in rogue behaviors
7. Do students who have rogue behaviors influence other students to join them in the deviance
8. How best can deviance be reduced in schools
9. Have you experienced any fire outbreak in the school since you started teaching in the school?
10. Have you ever heard about fire outbreak in other schools apart from your school?
11. Have ever heard of cases of Arson/Burning of schools by students?
12. How many incidences of school fires have you had in school since you started teaching in this school
13. Apart from arson, what are other causes of fire in schools? How common are they?
14. What do you think are some of the factors that make students burn school?
15. What are some of the items that students uses to burn the school?

16. Do students sneak out of school? And through which means/route?
17. What are some of the impacts witnessed during fire outbreak?
18. Which safety measures or equipment does this school have in place?
19. Does this school have trained teachers on issues of fire safety?
20. How often do teachers talk about fire safety in the school?
21. Do you have basic knowledge of first aid incase some gets burns?
22. What do you think can be done to avoid fire disaster in your school

Questionnaires For Police Officers and Fire Department

1. Do you think most schools experiences deviant behaviors among students in Bungoma county?
2. What are some of the cases of indiscipline in schools?
3. How rampant are the deviant behaviors in schools?
4. What is the most common form of punishment that you know in school?
5. After punishment do the students change for the better?
6. In your opinion, why do students engage in rogue behaviors?
7. Do students who have rogue behaviors influence other students to join them in the deviance?
8. How best can deviance be reduced in schools?
9. Have you experienced any fire outbreak in the school since you were deployed here/or started living here?
10. Apart from arson, what are other causes of fire in schools? How common are they?
11. What do you think are some of the factors that make students burn school?
12. What are some of the items that students uses to burn the school?
13. What are some of the impacts witnessed during fire outbreak?
14. Which safety measures or equipment does this school should put in place
15. What role do you play during fire outbreak in schools?

16. Do you think the services you offer help students to recover?
17. What do you think can be done to avoid fire disaster in this school

Focus Group Discussion

1. Do you think most schools experience deviant behaviors among students in Bungoma county?
2. What are some of the cases of indiscipline in schools?
3. How rampant are the deviant behaviors in schools?
4. What is the most common form of punishment that you know in school?
5. After punishment do the students change for the better?
6. In your opinion, why do students engage in rogue behaviors?
7. Do students who have rogue behaviors influence other students to join them in the deviance?
8. How best can deviance be reduced in schools?
9. Have you experienced any fire outbreak in the school since you started being here?
10. Apart from arson, what are other causes of fire in schools? How common are they?
11. What do you think are some of the factors that make students burn school?
12. What are some of the items that students use to burn the school?
13. What are some of the impacts witnessed during fire outbreak?
14. Which safety measures or equipment does this school should put in place?
15. What role do you play during fire outbreak in schools?

16. Do you think the services you offer help students to recover?
17. What do you think can be done to avoid fire disaster in schools

Observation Checklist

Equipment's and Installations	Available	Not available
Remains of property/damages		
Fire extinguishers		
Fire Alarms		
Fire Assembly points		
Fire exits		
Smoke detectors		
First Aid Kits		
Fire horse reels		
Fire buckets		
Fire blankets		

APPENDIX 4: Table for determining size of a finite population by Krejcie & Morgan, 1970.

Required Sample Size								
Population Size	Confidence = 95%				Confidence = 99%			
	Margin of error				Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	146	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1,067	427	636	827	1,119
1,500	306	515	759	1,297	460	712	959	1,376
2,000	322	563	869	1,655	498	808	1,141	1,785
2,500	333	597	952	1,984	524	879	1,288	2,173
3,500	346	641	1,068	2,565	558	977	1,510	2,890
5,000	357	678	1,176	3,288	586	1,066	1,734	3,842
7,500	365	710	1,275	4,211	610	1,147	1,960	5,165
10,000	370	727	1,332	4,899	622	1,193	2,098	6,239
25,000	378	760	1,448	6,939	646	1,285	2,399	9,972
50,000	381	772	1,491	8,056	655	1,318	2,520	12,455
75,000	382	776	1,506	8,514	658	1,330	2,563	13,583
100,000	383	778	1,513	8,762	659	1,336	2,585	14,227
250,000	384	782	1,527	9,248	662	1,347	2,626	15,555
500,000	384	783	1,532	9,423	663	1,350	2,640	16,055