

**PHYSICAL EDUCATION SAFETY PRECAUTION PRACTICES IN PRIVATE  
PRIMARY SCHOOLS IN NAIROBI CITY COUNTY, KENYA**

**STELLA NASIMIYU WAYONG'O**

**REG: H108/CE/22619/2010**

**DEPARTMENT OF RECREATION MANAGEMENT AND EXERCISE  
SCIENCE**

**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF  
SCIENCE IN EXERCISE AND SPORTS SCIENCE IN THE SCHOOL OF  
APPLIED HUMAN SCIENCES OF KENYATTA UNIVERSITY**

**MAY, 2018**

**DECLARATION**

This thesis is my original work and has not been presented for a degree in this or any other University.

Signature.....Date.....

Name: Stella Nasimiyu Wayong'o

Reg. No: H108/CE/22619/2010

**Supervisors:**

This work has been submitted for review with our approval as University Supervisors:

Signature..... Date.....

Francis Mwangi Mundia (PhD)

Department of Recreation Management and Exercise Science

Kenyatta University

Signature.....Date.....

Lucy Joy Wachira (PhD)

Department of Physical and Health Education

Kenyatta University

**DEDICATION**

This thesis is dedicated to God for granting me the grace and peace to reach this far and to my husband Geoffrey Sichangi Mukhono for his sincere love and support while undertaking this research.

**ACKNOWLEDGEMENTS**

My sincere and heartfelt gratitude goes to my two supervisors, Dr. Mwangi Francis Mundia and Dr. Lucy Joy Wachira, for their invaluable assistance throughout the course of this study. I also thank the lecturers in the Department of Recreation Management and Exercise Science at Kenyatta University and those in Physical and Health Education Department for equipping me with the necessary knowledge and skills for writing this thesis.

I am indebted to Premier Academy Senior Management Team and staff for the support they gave to me throughout the study. I wish to acknowledge Nairobi County Education Office and the Ministry of Education for permission to access their staff and collect data for the study. I appreciate the heads of different schools where the data was collected and the pupils who offered to participate in this study.

Lastly, I appreciate my dear husband, Geoffrey Sichangi for his prayers and support. Many are the times he sacrificed time and resources for me. I thank my brothers and sisters for the warmth and support they gave to me. My parents- in-law, Mr. Peter Mukhono and Mrs. Agnes Mukhono, the entire family and friends are highly appreciated for their sincere love and support throughout this study.

**TABLE OF CONTENT**

DECLARATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
TABLE OF CONTENT .....	v
LIST OF TABLES .....	x
LIST OF FIGURES .....	xi
ABBREVIATIONS AND ACRONYMS .....	xii
OPERATIONAL DEFINITION OF TERMS .....	xiii
ABSTRACT .....	xv
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.2 Statement of the Problem .....	5
1.3 Purpose of the Study .....	6
1.4 Objectives of the Study .....	7
1.5 Research Questions .....	7
1.6 Research Hypothesis .....	8
1.7 Significance of the Study .....	8
1.8 Delimitations of the Study .....	8
1.9 Limitations of the Study .....	9
1.10 Assumption of the Study .....	9
1.11 Conceptual Framework .....	9
<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>12</b>
2.1 Physical Education .....	12
2.2 Safety Precaution Practices .....	13
2.3 First Aid .....	15
2.4 Safety Rules and Regulations .....	16
2.5 Inspection and Maintenance of Facilities and Equipment .....	17

2.6 Emergency Plans.....	18
2.7 Risk Assessment Plans.....	19
2.8 Type of School and Employment of Safety Precautions .....	20
2.9 Summary of the Literature Review.....	21
<b>CHAPTER THREE: METHODOLOGY .....</b>	<b>25</b>
3.1 Research Design.....	25
3.2 Measurements of Research Variables.....	25
3.3 Location of the Study.....	26
3.4 Target Population.....	26
3.4.1 Inclusion Criteria .....	27
3.5 Sampling Procedure and Sample Size .....	27
3.6 Research Instruments .....	28
3.7 Pre Test .....	29
3.8 Instrument Validity .....	30
3.9 Reliability of the Instrument .....	30
3.10 Data Collection Procedures.....	30
3.11 Data Analysis .....	31
3.12 Logistical and Ethical Considerations .....	31
<b>CHAPTER FOUR: FINDINGS.....</b>	<b>32</b>
4.1 Introduction.....	32
4.2 Socio Demographic Characteristics of the Respondents .....	32
4.2.1: Gender.....	32
4.3 First Aid: availability, accessibility and utilization .....	33
4.3.1: Availability of First Aid Kits in Private Primary Schools in Nairobi City County	33
4.3.2: Availability of First Aid Kits during PE lessons in Private Primary Schools in Nairobi City County.....	33
4.3.3: PE Teachers with Knowledge in First Aid in Private Primary Schools in Nairobi City County.....	33

4.3.4: Adequacy of First Aid Kits during PE lessons in Private Primary Schools in Nairobi City County.....	34
4.3.5: Inspection of First Aid Kit Content in Private Primary Schools in Nairobi City County.....	34
4.3.6: Pupils know where the First Aid rooms are located in Private Primary Schools in Nairobi City County.....	35
4.3.7: Pupils being given First Aid during ongoing PE lessons in Private Primary Schools in Nairobi City County.....	36
4.4: Safety Rules and Regulations during PE lessons .....	37
4.4.1: Availability of Safety Rules and Regulations during PE lessons in Private Primary schools in Nairobi City County (Researcher’s observation).....	37
4.4.2: Wearing of the PE Kit by Pupils during PE lessons (Researcher’s observation) ...	38
4.4.3: Presence and absence of the PE Teacher during PE lessons in Private Primary Schools in Nairobi City County.....	38
4.4.4: Attention to the pupils during PE lessons in Private Primary Schools in Nairobi City County.....	39
4.4.5: Presence of Safety gadgets during PE lessons in Private Primary Schools in Nairobi City County (Researcher’s observation).....	40
4.4.6: Presence of Cool down session during PE lessons in Private Primary Schools in Nairobi City County.....	41
4.4.7: Execution of Correct Warm up session during PE lessons in Private Primary Schools in Nairobi City County (Researcher’s observation).....	41
4.5 Inspection and Maintenance Schedules of PE Facilities and Equipment .....	42
4.5.1: PE Teachers having Written Reports about PE Facilities and Equipment (PE teachers’ response).....	42
4.5.2: Frequency of Inspection of the PE facilities in Private Primary Schools in Nairobi City County (PE teachers’ response).....	43
4.5.3: The Person who Inspects PE Facilities in Private Primary Schools in Nairobi City County (PE teachers’ response).....	45
4.6 Emergency Plans in the School.....	46

## VIII

4.6.1: Presence of an Emergency Program in Private Primary Schools in Nairobi City County.....	46
4.6.2: Access to Communication Device in time in case of an emergency in Private Primary Schools in Nairobi City County (PE teacher’s response) .....	46
4.6.3: Insurance Covers in Private Primary Schools in Nairobi City County (PE teachers’ response) .....	46
4.6.4: Conversance with the Procedures of the School Insurance Covers by the PE Teachers in Private Primary Schools in Nairobi City County (PE teachers’ response) .....	47
4.6.5: Pupils had Knowledge of the Fire Assembly Point where pupils were to assemble in Private Primary Schools in Nairobi City County (Pupils response).....	49
4.7 Risk Assessment Plans in the School.....	50
4.7.1: Availability of Open Fields in Private Primary Schools in Nairobi City County... ..	50
4.7.2: Condition of Open Fields in Private Primary Schools in Nairobi City County.....	50
4.7.3: Adequacy of Open Fields in Private Primary Schools in Nairobi City County .....	51
4.7.4: Adequacy of Indoor courts in Private Primary Schools in Nairobi City County (Researcher’s observation).....	52
4.7.5: Availability of Games balls (Researcher’s observation and Pupils’ response) .....	52
4.7.7: Condition of Games balls in Private Primary Schools in Nairobi City County .....	54
4.7.8: Availability of Swimming pools in Private Primary Schools in Nairobi City County (Researcher’s Observation).....	54
4.7.9: Condition of Swimming pools in Private Primary Schools in Nairobi City County (Researcher’s observation).....	54
4.7.10: What a Pupil does when given broken equipment by the PE Teachers in Private Primary Schools in Nairobi City County (Pupils’ response).....	56
4.7.11: Number of Pupils in a single PE lesson in Private Primary Schools in Nairobi City County (PE teachers’ response).....	57
<b>CHAPTER FIVE: DISCUSSION.....</b>	<b>59</b>
5.1 Discussion of the Findings.....	59
5.2 Availability, accessibility and utilization of the First Aid Kit .....	59

5.3 Availability of Safety Rules and Regulations during PE lessons .....	61
5.4 Availability and adherence to Inspection and Maintenance Schedules of Facilities and Equipment .....	65
5.5 Availability and Display of Emergency Plans .....	67
5.6 Availability of Risk Assessment Plans .....	69
5.7 Relationship by Type of School.....	71
<b>CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>75</b>
6.1 Summary of the Findings.....	75
6.2 Conclusions.....	76
6.3 Recommendations for practice and policy.....	77
6.4 Recommendations for Further Research.....	78
<b>REFERENCES.....</b>	<b>80</b>
<b>APPENDICES.....</b>	<b>86</b>
Appendix A: Graduate school Research authorization letter.....	86
Appendix B: Approval letter from Kenyatta University ethics board.....	87
Appendix C: Permit from Ministry of Education: National Commission for Science, Technology and Innovation (NACOSTI) .....	89
Appendix D: Introductory letter to schools seeking permission to conduct Research .....	90
Appendix E: Consent Form for Physical Education Teachers.....	93
Appendix F: Consent Form for Parent /Guardian.....	96
Appendix G: Child's Assent Form .....	99
Appendix H: Teachers' Questionnaire.....	102
Appendix I: Pupils Interview based Questionnaire .....	107
Appendix J: Observation Checklist .....	110
Appendix K: Map of Nairobi County .....	112
Appendix L: Summary of School Safety Manual (2008).....	113

## LIST OF TABLES

Table 3.1: Sampling Frame Size.....	28
Table 3.2: Sampling Sample Size Table.....	28
Table 4.1: First Aid in Private Primary Schools in Nairobi City County.....	35
Table 4.2: First Aid in Private Primary Schools in Nairobi City County (pupils’ response).....	37
Table 4.3: Safety Rules and Regulations in Private Primary schools in Nairobi City County (Pupils’ response and Researcher’s observation).....	40
Table 4.4: Safety Rules and Regulations in Private Primary Schools in Nairobi City County (Researcher’s observation).....	42
Table 4.5: Emergency Plans in Private Primary Schools in Nairobi City County (PE teachers’ response).....	44
Table 4.6: Emergency Plans in Private Primary Schools in Nairobi City County (Pupils’ response).....	45
Table 4.7: Inspection of Facilities and Equipment in Private Primary Schools in Nairobi City County (PE teachers’ response).....	48
Table 4.8: Inspection of Facilities and Equipment in Private Primary Schools in Nairobi City County (PE teachers’ response).....	49
Table 4.9: Risk Assessment of Facilities in Private Primary schools in Nairobi City County (Researchers’ observation).....	51
Table 4.10: Risk Assessment of Facilities and Equipment in Private Primary Schools in Nairobi City County (Researcher’s observation one).....	53
Table 4.11: Risk Assessment of Facilities and Equipment in Private Primary Schools in Nairobi City County (Researcher’s observation two).....	55
Table 4.12: Risk Assessment of Equipment in Private Primary Schools in Nairobi City County (Pupils’ response).....	57
Table 4.13: Risk Assessment of Activity in Private Primary Schools in Nairobi City County PE teachers’ response and Researcher’s observation.....	58

**LIST OF FIGURES**

Figure 1.1: Conceptual Frame showing Factors that Contribute to a Safe PE lesson ..... 11

Figure 4.1: Availability of Safety Rules and Regulations during PE lessons in private  
Primary Schools in Nairobi City County ..... 38

**ABBREVIATIONS AND ACRONYMS**

<b>CWS:</b>	Church World Society
<b>GoK:</b>	Government of Kenya
<b>KU:</b>	Kenyatta University
<b>MECH:</b>	Ministry of Education, Culture and Human Resources
<b>MOE:</b>	Ministry of Education
<b>MOEST:</b>	Ministry of Education Science and Technology
<b>NIH:</b>	National Institutes of Health
<b>PA:</b>	Physical Activity
<b>PA's:</b>	Physical Activities
<b>PE:</b>	Physical Education
<b>PEISC:</b>	Prince Edward Island Safety Committee
<b>SPSS:</b>	Statistical Package of Social Science
<b>SSZ:</b>	School Safe Zone
<b>T.V:</b>	Television
<b>USCPSU:</b>	United States Consumer Product Safety Commission
<b>WERK:</b>	Women Educational Research of Kenya
<b>WHO:</b>	World Health Organization

## OPERATIONAL DEFINITION OF TERMS

**8-4-4:** Refers to private schools which follow the Kenyan education curriculum of 8 years in primary school, 4 years in secondary school and 4 years in the university.

**Acute injuries:** These are injuries caused by a sudden stress on the body encountered during Physical Education lessons in private primary schools.

**Children:** Boys and girls that learn in private primary schools only.

**Contact sports:** Sports that require physical contact between players as part of normal play in Physical Education like soccer, hockey and basketball.

**Exercise:** Refers to a physical activity that is planned or structured and involves energy expenditure during Physical Education lessons.

**High cost private primary school:** Schools in Nairobi City County, Kenya charging tuition fees of 300,000 Kenyan shillings and above per term.

**Injury:** A physical hurt or wound suffered during participation in Physical Education lessons.

**Low cost private primary school:** Schools in Nairobi City County, Kenya charging tuition fees of below 100,000 Kenyan shillings per term.

**Medium cost private primary school:** Schools in Nairobi City County, Kenya charging tuition fees of 100,000 to 299,000 Kenyan shillings per term.

**Physical Education Program:** Refers to the program that is concerned with Physical Education lessons only and not all physical activities that pupils engage in while at school.

**Physical Education Teacher:** Refers to a person who provides education for pupils in school during Physical Education lessons.

**Private schools:** Refers to Primary schools not run by the government.

**Risk:** A situation involving exposure to danger in Physical Education lessons in Private Primary schools.

**Safety precaution practice:** Any action taken before any physical activity to prevent danger during Physical Education lessons; for example, ensuring that all equipment is in good condition before giving them to the pupils.

**Supervision:** To take charge of pupils during Physical Education lessons.

**Type of school:** High cost, medium cost and low cost private primary schools in Nairobi City County, Kenya.

**ABSTRACT**

Schools have been identified as key settings for promotion of physical activity in children through Physical Education programs. However, participation in physical activities has some potential risk for injury. Due to this, safety procedures have always been an integral part of the Physical Education program. The purpose of this study was to assess safety precaution practices employed in Physical Education lessons in private primary schools in Nairobi City County, Kenya. This study was an assessment of the extent to which facilities, equipment, and supervision of activities were organized to prevent injuries during Physical Education lessons. Cross sectional analytical research design was adopted to assess safety precautions observed during PE. The respondents were Physical Education teachers and pupils in private primary schools in Nairobi City County, Kenya. A total of 20 schools, 40 teachers (50% male and 50% female) and 60 pupils (51.7% male and 48.3% female) were sampled. Self-administered questionnaires, interview schedules and observational checklists were used as tools of data collection. Proportional stratified sampling technique was used to select private high cost, private medium cost and private low cost primary schools. The results were summarized using frequencies and percentages. Chi Square was used to answer research questions and test the hypothesis at a significant level of 0.05. The results indicated that First Aid kits were available in all private primary schools though they were not adequate. Chi Square value of  $X^2=5.369$  and  $p$  value of 0.068 showed that there was no significant relationship between the types of school and availability of First Aid kits during PE lessons. 77.5% of PE teachers had knowledge in administering first aid. Majority (88.7%) of pupils knew whom to approach and where to go in case of an emergency. 33(85%) of the PE lessons conducted had safety rules displayed; however, adherence to the safety rules and regulations depended on the type of school. Chi Square value of  $X^2 =7.464$  and  $p$  value of 0.024 showed that there was significant relationship in the availability of safety rules and regulations during PE lessons between the type of school. Most schools had PE facilities and equipment though the adequacy and condition depended on the type of school. Chi square value of  $X^2= 36.932$  and  $p < .001$  revealed that there was significant relationship between the types of school and the condition of ball games. The type of school determined the availability of emergency plans. Chi Square value of  $X^2=7.059$  and  $p$  value of .029 showed that there was significant relationship in presence of emergency programs between the types of school. Majority of private primary schools (52.5%) had manageable number of pupils during PE lessons. It was therefore recommended that for full implementation of safety precautions during PE lessons in private primary schools, all stakeholders concerned have to play their roles effectively. The government should be more aggressive in sensitizing the schools on the need to implement recommended safety precaution practices during PE lessons since most private primary schools are taking PE more seriously. The Ministry of Education should come up with a more refined policy on monitoring and evaluating the implementation of recommended safety precautions.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

A quality Physical Education program offers the best opportunities to provide physical activity (PA) to all children and to teach them the skills and knowledge needed to establish and sustain a physically active lifestyle (Barb, 2005). Physical Education (PE) is a great way to introduce children to PA such as sports and games they would otherwise never participate in. PE provides the opportunity for them to use equipment and access various facilities at school (A Foresters Company, 2013). Children spend more time at school where they need to feel secure in order to learn properly (National Crime Prevention Council, 2015).

Green field, Almond and Edwards (2016) found out that the school that children attend affects physical education provision. They further explain that schools located in more affluent areas had higher physical education provision, as did schools located in the south and rural areas and those with a lower proportion of pupils from ethnic minorities; this concurs with the existing literature around proxies for socioeconomic status. According to Kenya-Advisor (2014), there are three types of schools in Kenya: public, private and Harambee schools. Tooley and Dixon (2005) explain that private schools are both privately managed and privately funded. They note that private education is not only concerned with serving the elite or middle classes, but even the poor. According to Globe Media (2014), private schools are superior to public schools due to additional funding from school fees though the cost varies from school to school. They noted that private schools offer a good range of facilities and extracurricular activities for students which have inherent danger. According to Wanyama (2011), and other anecdotal sources, since

public primary schools do not assess PE as a subject, they tend not to take it seriously; unlike in most private schools where it is taken seriously, hence necessitating implementation of safety precautions. One of the private schools in Nairobi city county states that in these schools students not only experience traditional academic subjects but also other subjects like drama, art, music, dance and PE. Gathu, Ndung'u and Bomett (2015) further explain that in Kenyan public schools PE as a subject is not adequately staffed and there are no facilities for it.

Nationwide Children's (2009) state that PE in schools is one of the main tools used to increase PA and to prevent childhood obesity but it may also increase the risk of injury if safety precautions are not adhered to. McGuire (2015) states that the death of a student at St. Louis Park Boys' school during a PE class (swimming lesson), was due to the teacher having a large class (30 students) which made supervision difficult. This incident resulted in a legal law suit. According to Nelson, Alhaji, Yard, Comstock and McKenzie (2009), PE-related injuries warrant research attention. The Kenyan Children's Act (2001) was formed to emphasize on protection of all children. The school and educational institutions in general are supposed to be aware of such rights in order to safeguard children.

According to Michigan (2005), key components of a properly administered safety program include: provision of safe and sufficient equipment, conducting the activity in a safe environment, proper supervision, and proper communication in place to respond to any emergency. Macharia (2012) found out that safety in the school playground forms an integral component of children's participation in outdoor activities. Prince Edward Island Safety Committee [PEISC] (2010) emphasizes the importance of having a First Aid kit on-site during PE lessons. It stresses the need for schools to prepare and establish risk

assessment plans, emergency plans and develop a procedure for regular inspection of facilities and equipment with appropriate follow-up. Fitzroy legal services (2015) state that vigilant supervision is vital in the conduction of any PA. The law imposes a legal duty on teachers and schools to take care of the safety and well-being of pupils under their care. According to Kamenju, Kiganjo and Mwathi (2004), the teacher has the duty to establish a safe and healthy environment by ensuring proper condition of the equipment and apparatus, and display of rules and regulations.

In Kenya, the Government (GoK) (Ministry of Education, 2008) demands that all institutions of learning put in place safety precautions during PA. It has circulated the School as Safe Zones (SSZ) manual for all schools in Kenya (Appendix: L). The manual has set standards and guidelines which all schools are to put in place to enhance the safety of a child. Each school is supposed to establish a monitoring and evaluation system as an essential component of school safety. Schools are required to have processes of determining their progress towards the achievement of the predetermined objectives relating to School Safety. School play grounds, infrastructure, disaster and emergency preparedness that touch directly on PE are among the components that are supposed to be evaluated. School grounds should, wherever possible, be located in places with least climatic hazards such as floods, wind effects and similar natural hazards. Grounds are to be leveled (fields) to make them easier for use by learners and teachers. School managements are required to mobilize resources to ensure that requirements of safe school grounds are met. Playgrounds are to reflect the diversity of sport talents in the school. In addition, equipment used for games, like balls, are to meet the necessary safety requirements. Proper and regular supervision and inspection of school grounds is

supposed to be mandatory to ensure that there are no items such as broken glass, loose sticks, stones or pot-holes that can cause injury to the learners, teachers or other school personnel.

In regard to safety of physical infrastructure, the GoK demands that the doorways be adequate for emergency purposes, open outwards and should not be locked from outside at any time when learners are inside. For storied buildings, the stairways should be wide enough and located at both ends of the building and should be clear of any obstructions at all times. The construction of stairways should give provision for learners with special needs or disabilities. The handrails in the stairs should be strong and firmly fixed. Regular inspection of classroom buildings, halls and stairways should be carried out and immediate measures taken to correct any problems noticed. It is required that the positioning of electrical sockets be beyond the reach of young learners in order to avoid tampering.

Disaster risk reduction is another key area that schools are supposed to put in consideration as far as safety is concerned during PE lessons. The government demands that disaster risk strategy be established in all schools to minimize the effects of disasters. The risk reduction strategy calls for the establishment of a disaster Crisis Response Team with the mandate to prevent, mitigate and effectively prepare against potential disaster. The School management or board is to create mechanisms and procedures that ensure stakeholders are conversant with measures needed to prevent occurrence of disasters and steps required to reduce the impact. Every school is required to post evacuation maps at every entrance and exit to buildings, classrooms, enclosed hallways, stairways and offices. Schools are to schedule practice drill sessions for fire, earthquake, lockdown,

shelter-in-place and other situations that the safety committee determines necessary to practice. Every school is required to develop a telephone tree list including all employees. The school emergency kit(s) having full content: first aid kit, whistles, fire blankets, flash torches, fire extinguishers, blueprints of school buildings must be maintained.

Despite the governments' directive, there is limited information showing implementation of these safety directives. Women Educational Researchers of Kenya [WERK] (2011) report showed that only four out of ten public primary schools had safety manuals. Moreover, cases of injuries during PE lessons are still being reported. The treatment report by AAR in one of the private schools in Nairobi City County showed that twenty three students had been treated because of injuries they had incurred during PE lessons in the year 2015 (Nasimiyu, personal communication, September 2, 2015). This warrants an investigation, particularly on the observance of safety precautions in private primary schools within Nairobi City County, Kenya.

## **1.2 Statement of the Problem**

The fact that sport and PE are high-risk activities does not mean they should be avoided for the benefits far outweigh the risks, but schools have a clear, legal obligation to minimize and manage the risks and provide a safe and inclusive program for children (Catholic Church Insurance, 2015). Due to the inherent risk of injuries during Physical activities, the GoK has directed that all schools should observe safety practices during PE (Ministry of Education, 2008). Despite this directive, there are still reported cases of injuries, deaths and law suits. Research done by Abernethy and McCauley (2017) indicated that 194 patients aged 11–18 attended the accident and emergency department with an injury, 51% of which occurred during school sport. Injuries were reported to have

occurred mostly in rugby (43%), followed by physical education and games together (17.5%). Most injuries were x rayed (72%). Just over 12% of pupils lost no time from sport, most (71%) were back to sport within three weeks, and 2.7% were injured for more than eight weeks. Almost a third of parents needed to take time off from work to deal with the injured child. The report by Kinuthia (2018) for Citizen Digital states how a form three student died during an inter-school swimming competition in one of the secondary schools in Kiharu, Murang'a County, Kenya. The student drowned as the competitions were ongoing but his body remained in the water unnoticed until two hours after the games were over. Another incident involved a student who was a top swimmer from one high school in Bungoma County, Kenya who drowned in the school swimming pool as reported by (Gibendi, 2014). It was reported that the student was practicing for upcoming swimming competitions with fellow students when the incident occurred.

Legal issues (n.d.) emphasizes that the number of law suits are on the increase during PE lessons in schools. Apart from the negative publicity, injuries lead to loss of time and opportunities, high cost of treatment and also deaths of children and youths. Surprisingly, there is very limited information on the implementation of the GoK's directives and recommendations on safety. This study was designed to assess the implementation of PE safety precaution practices in private primary schools in Nairobi City County, Kenya.

### **1.3 Purpose of the Study**

The purpose of the study was to assess safety precaution practices employed during PE lessons in private primary schools within Nairobi City County, Kenya.

#### **1.4 Objectives of the Study**

The main research objective of the study was to determine if recommended safety precaution practices were observed during PE lessons in private primary schools in Nairobi City County, Kenya.

The study was guided by the following specific research objectives:

- i. To establish whether a fully equipped First Aid kit is available, accessible and used during PE lessons in private primary schools in Nairobi City County, Kenya.
- ii. To determine if safety related rules and regulations are displayed for PE lessons in private primary schools in Nairobi City County, Kenya.
- iii. To establish if inspection and maintenance schedules of facilities and equipment are available and followed in private primary schools in Nairobi City County, Kenya.
- iv. To determine if an emergency plan is in place and displayed in private primary schools in Nairobi City County, Kenya.
- v. To establish if a risk assessment plan is in place in private primary schools in Nairobi City County, Kenya.

#### **1.5 Research Questions**

In pursuit of the objectives of this study, the following research questions were asked:

- i. Is a fully equipped First Aid kit available, accessible and used during PE lessons in private primary schools in Nairobi City County, Kenya?
- ii. Are safety related rules and regulations displayed for PE lessons in private primary schools in Nairobi City County, Kenya?
- iii. Are inspection and maintenance schedules of facilities and equipment available and followed in private primary schools in Nairobi City County, Kenya?

- iv. Are Emergency plans available in private primary schools in Nairobi City County, Kenya?
- v. Are there risk assessment plans in private primary schools in Nairobi City County, Kenya?

### **1.6 Research Hypothesis**

In pursuit of the objectives of this study, the following null hypothesis was tested:

**H<sub>01</sub>** There is no significant relationship between the type of schools (high, medium or low cost) and employment of safety precaution practices in private primary schools in Nairobi City County, Kenya.

### **1.7 Significance of the Study**

The findings may bring out information on the status of the implementation of safety precautions in PE lessons in the study population, and the factors that affect the same which may help in monitoring and evaluating the system. It may assist the Ministry of Education to evaluate and follow up the formulated safety policies regarding those in charge of PA or PE in schools to ensure that they adhere to safe exercise techniques. It may help school administrators in private schools to facilitate the implementation of safety precautions in PE lessons since more of these schools have facilities and equipment that pose danger.

### **1.8 Delimitations of the Study**

The study was delimited to the private primary school going children in Nairobi City County. The private schools comprised of both the International and the 8-4-4 schools.

Birmingham City Council (2011) states that the key factor of defining private schools is their dependence on user fees to cover all or part of their operational and development costs. Private schools were categorized into three: high cost, medium cost and low cost schools. High cost schools were represented by those charging tuition fees of 300,000 Kenya shillings and above per term. Medium costs were represented by those charging between 100,000 Kenya shillings to 299,000 Kenya shillings as tuition fee per term. Low cost schools are those charging tuition fees of below 100,000 Kenya shillings per term.

### **1.9 Limitations of the Study**

Since the teachers were employed by the school managers they feared victimization by their employers in the opinions they were to give in the questionnaires. However, the researcher assured them of confidentiality. Apart from that, the researcher had no control over the accuracy of the responses given by the respondents though she encouraged them to be honest in responding to the questions.

### **1.10 Assumption of the Study**

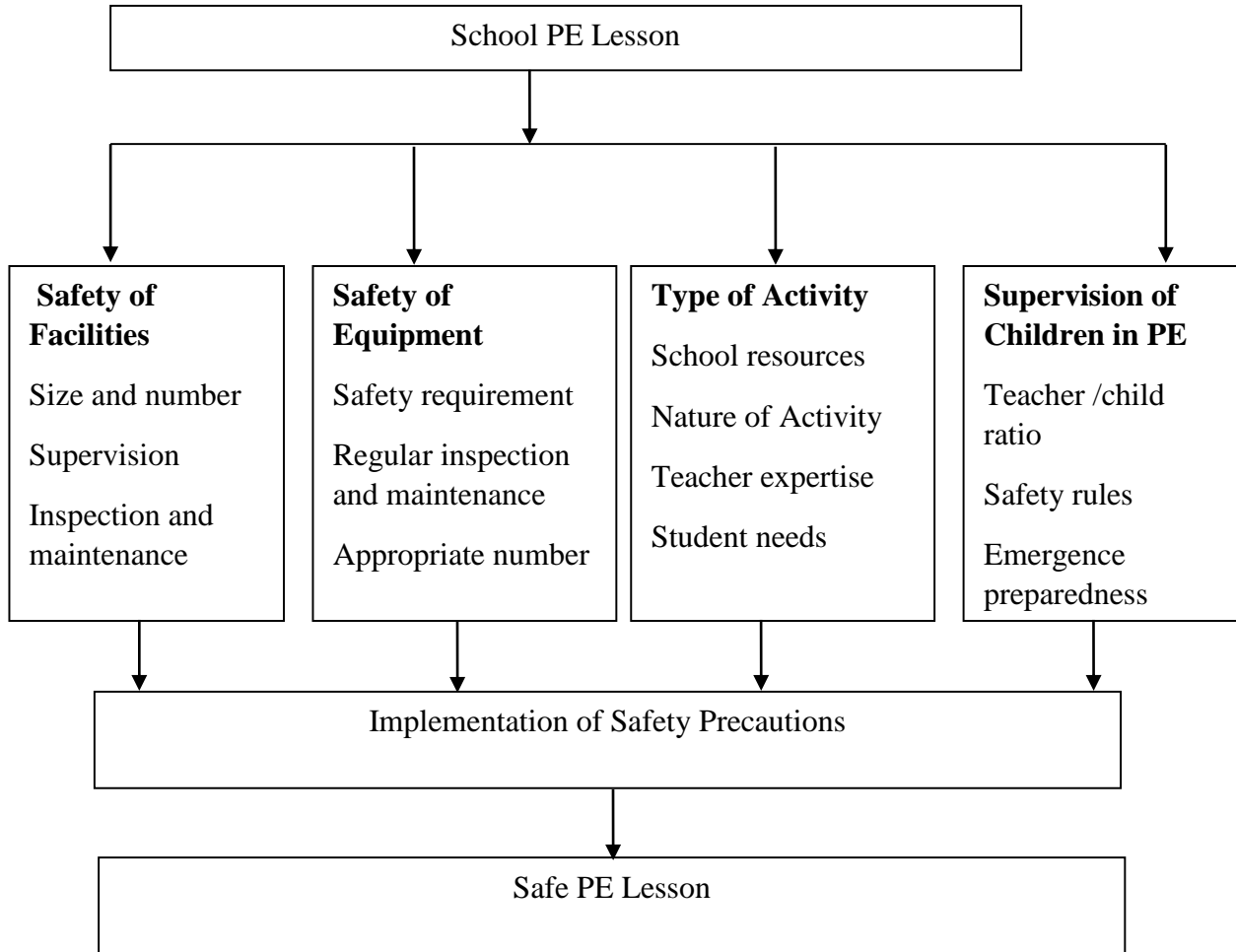
The study was guided by the assumption that private schools had PE teachers and pupils who were aware of inherent danger of certain activities in PE lessons, and the safety precautions to be applied. They were therefore informed to participate appropriately. It was also assumed that injuries caused were directly linked to the PE facilities, equipment, type of activity and supervision.

### **1.11 Conceptual Framework**

This study was based on the concept that injury can be caused by internal or external factors (Bahr and Krosshaug, 2005). The child comes into contact with the cause of

injury because of factors in the surrounding: physical and social environment (United States department of health and human Sciences, 2012). It is therefore important to ensure that each activity that is to be organized and the facilities to be provided must be free and safe from incidents that could cause injuries either directly or indirectly (Zakaria, Harun, Salamuddin and Taff, 2016). A risk assessment should be made for different teaching scenarios or environments, each highlighting particular hazards; the potentially dangerous things associated with that activity or environment, and the risks; and the likelihood of an accident occurring. The risk assessment should also include the control that would be used to reduce or possibly eliminate the risks involved (Hind and Palmer, 2007).

Safety of a PE lesson is therefore determined by the safety of PE facilities, equipment, type of activity and quality of supervision during PE lessons. The safety of facilities and equipment is determined by inspection and maintenance, supervision and their number in proportion to the number of pupils. School resources (facilities and equipment), students' needs and nature of the activity determine the safety of the activity. PE activities of any kind should be supervised by qualified staff to minimize the chances of occurrence of injuries. Teacher to- student ratio, display of rules and emergence preparedness of the teacher determines the quality of supervision during PE lessons. For full implementation of safety practices, the PE teacher should discharge a higher duty of care to pupils during PE lessons and at the same time the pupils should be made aware of safety requirement (Shropshire Council, 2016). This relationship is presented in the diagram below



**Figure 1.1:** Conceptual Framework showing factors that contributes to a safe PE Lesson

**Source:** Modified model from Macharia, (2012)

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Physical Education

Mungai, Sang and Wamutitu (2014) define PE as an educational course related to the physique of the human body, taken during primary and secondary education that encourages psychomotor learning in a play or movement exploration setting to promote health. PA is the cornerstone of the PE program. Through PE, students are given the opportunity to participate in a variety of PA's such as sports and games and acquire the concepts and skills that will enable them to participate in these sports and games, both for leisure and competition (Singapore Ministry of Education, 2005). In the research carried out by Grace (2015) 49 respondents who included 40 learners, 5 teachers and 4 administrators indicated that PE played a role in promoting learner academic performance by helping to reduce boredom due to sitting long hours in class, helping to relax and refresh the brain and that it enhances the attention and concentration levels of the learners.

Safe practice in physical education and sport provides a very solid foundation for learning and achievement in all educational settings (schools, colleges, clubs, centers and in the youth service) and across all key stages of education, from the very early years through to post 16 (Shropshire Council, 2016). In particular, access to an adequate number of physical educators per student as well as well-maintained, safe, and appropriate facilities and sport and exercise equipment will enhance students' opportunities for adequate physical activity (Bevans, Fitzpatrick, Sanchez, Riley and Forrest, 2011).

The school that children attend affects PE provision during the school day, (Greenfield, Almond and Edwards, 2016). In the research, they found out that socio economic status has an impact on the provision of physical education in schools. Schools located in more affluent areas had higher physical education provision, as opposed to schools located in the South and rural areas and those with a lower proportion of pupils from ethnic minorities.

## **2.2 Safety Precaution Practices**

Safety of children and adolescents during school sports activities is the key issue in methodology of PE. For this reason, safety should be the subject of primary concern while planning PE activities (Podstawski, Zwolinska and Nowosielska, 2015). A key area of “responsibility” for a PE teacher is to be aware of the legal requirements and obligations that teachers have in maintaining safety and teaching to a high standard (Hind and Palmer2007).

According to the Ministry of Education, Culture and Human Resources [MECH], (2009) parents entrust their children to the school, firmly assured of their safety and well-being. It is therefore the duty of the school to ensure safe practice in PE and sports (Gallaber, Fountain and Gee, 2000). A school’s PE program should seek to develop in each student the ability to acquire safe practices during PA’s. Safe practices are fundamental to the participation and enjoyment of PA’s (Singapore Ministry of Education, 2005). The Ministry of Education (2008) demands that all institutions of learning put in place safety precautions during PA. It has circulated a manual (SSZ) that contains recommended safety standards for all schools in Kenya to adhere to (Appendix: L). For a safe PE

lesson, schools are supposed to ensure that learner-teacher ratio in their respective lessons remains at the official recommended proportion in order to avoid congestion which can be a safety hazard in PE lessons. In addition, promotion of comfortable conditions that facilitate quality learning and encouraging instructional strategies that actively engage learners in the learning process should be put in place.

The safety guidelines on the school environment state that the school environment should be safe to promote learners' concentration on learning and to facilitate the development of their social skills without compromising, in anyway, sustainable biodiversity. Schools are to strive for indoor and outdoor air quality by ensuring that ventilation equipment or air ducts are regularly inspected and replaced as needed. Whenever possible, the exterior and interior lighting should be of appropriate standards so as to make it difficult for intruders to go undetected, while classrooms and occupied buildings should be well-lit to ensure that the learners do not strain while undertaking learning activities. Solid waste is supposed to be properly disposed to avoid the spread of communicable diseases, discourage the presence of pests and other vectors and prevent human contact with hazardous materials. A regular schedule for inspecting school facilities should be developed. Good sanitation practices and proper maintenance of structures and grounds to seal structural cracks through which pests and rodents can enter should also be in place.

Macharia (2012) found out that 9private(82%) , 2public(58%), 3urban(50%) and 4rural(54%) preschool head teachers indicated collecting or clearing harmful or sharp objects and covering potholes that could harm children or create fear of using the playgrounds as ways of ensuring safe playground spaces. The aim of the research was to

find out how safety is employed on playgrounds only in preschools. In the current study, the researcher focused on how safety was being employed not only on playgrounds, but in all PE lessons not necessarily on play grounds in a different level of education: Private primary schools.

### **2.3 First Aid**

Due to ignorance by a large portion of the population about first aid, many lives are lost in accidents that could be resolved immediately (Rodrigues and Fernandes, 2016). They further explain that in the educational environment, especially during the exercises of physical education classes are common place situations that demand the necessary role of the teacher in the provision of the first calls. In the research done by Patón, Giráldez and Camiño (2015) on knowing the current situation of First Aid taught at PE in Primary schools, they found out that less than half of the participant teachers (44.5%) included contents related to first aid in their lessons.

Kiganjo, Kamenju and Mwathi (2003) state that even in a well prepared PE lesson; injuries are still likely to occur. They note that it is vital for every PE teacher to have knowledge of First Aid administration to deal with minor injuries, leaving complicated ones to be handled by qualified medical practitioners. One of the private schools in Nairobi City County has set a policy requiring all teachers in the school to be trained and be qualified in basic first aid. This is because the teacher is fully responsible for ensuring safety of all students in the school. This was one school among many in Nairobi City County and therefore this particular research was to find out if other private schools were applying the same strategy in ensuring that there was safety during PE lessons.

MOE in [SSZ], 2008) demand that all schools in Kenya should have emergency kits that should contain First Aid kits. A full First Aid kit should contain the following: A box measuring 18cm x 27cm x 9cm, 1 x guidance Leaflet , 1 x 16 Eye pad , 2 x triangular bandage, 12 x safety pins , 1 x large first aid dressing , 2 x med first aid dressings , 1 pair of gloves, 4 x wipes , 2 x double sided non adherent dress 5 x 5cm, 2 x double sided non adherent dress 10 x 10cm , 1 x blunt/blunt scissors , 2 x foil heat blanket , 2 x crepe bandage 10cm x 4.5m and a wall bracket available separately.

## **2.4 Safety Rules and Regulations**

In every gym or on every pitch as well as in the areas designated for physical exercise and games, it is compulsory to display information boards laying down the rules for safe and proper use of gear and equipment in such places. Additionally, in order to increase safety, other information boards may be put on display laying down the rules for specific use of gym, school pitch, mats, and other elements of the equipment (Podstawski, Zwolinska and Nowosielska, 2015).

Kamenju, Kiganjo and Mwathi (2006) explain that learners in schools should be warned of potential dangers and risks and be advised of rules and reasons for having rules during PE lessons. They recommend that safety rules should be posted near areas of increased risks like changing rooms as well as in shower rooms. Podstawski, Zwolinska and Nowosielska (2015) state that apart from basic safety rules and regulations observed in the school at PE, each PA must have its own set of safety rules, with which all students should familiarize themselves. In the research done by Shetty Memorial Institute of Dental Sciences (2014), it was found out that the level of knowledge of physical education teachers of Dakshina Karnada and Udupi districts on the management of dental

trauma appeared to be inadequate. It was concluded that PE school teachers are to ensure a safe environment with an aim to reduce dental trauma by strongly recommending the use of mouth guards during contact sports.

Macharia (2012) found out that safety rules and regulations in the playgrounds provided preschoolers and teachers with the opportunity to participate in enhancing playground safety. Wanjiru (2011) found that most preschools in Thika West district, Kenya had no safety rules and regulations; this was implied by the result of 30(62.5%), 45(93.8%) teachers who indicated that there were no safety rules in the schools. This created the need to establish if the recommended safety precautions were being implemented in higher levels of education, and especially during PE lessons.

## **2.5 Inspection and Maintenance of Facilities and Equipment**

PE program facilities can be either permanent or temporary physical structures which should be appropriate and devoid of any risks to users (MOE in [SSZ], 2008). In order to ensure safe, school playgrounds, the following guidelines have been termed necessary as per the recommendation by the ministry of education: schools are to be properly demarcated and grounds fenced with a secure gate; the grounds are to be neat, beautiful and safe for use by learners, staff, parents and community members, at all times; school grounds are, wherever possible, to be located in places with least climatic hazards such as floods, wind effects and similar natural hazards. Similarly, schools are to be located away from disruptive land use activities such as industrial facilities, bars, heavy traffic routes, sewage or dump sites. The school grounds are to be leveled to make them easier for use by learners and teachers. Proper and regular supervision and inspection of school grounds

should be in place to ensure that there are no items such as broken glass, loose sticks, stones or pot-holes that can cause injury to the learners, teachers or other school personnel. The equipment used for games should meet the necessary safety requirements.

In the research carried out by the United States Consumer Product Safety Commission [US CPSC], (2010), playgrounds are potentially dangerous areas even when they are designed, installed and maintained in accordance with set safety guidelines and standards. It is therefore important to have routine maintenance inspection. A case study by Kania (2013) on health and safety standards of swimming pool facilities in Nairobi, Nakuru and Kiambu Counties portray a bad state of the swimming pool hygiene and safety in Kenya. In the results 11 pools scored compliance of range 81% - 100%. These pools were observed to be the five star international hotels and a few international schools in Kenya. Nineteen pools scored compliance of the range from 61% - 80%, 29 pools scored the compliance of the range from 41%-60%. The number of pools rose to 46 in the range of 21%-40% compliance and the number was less retained at 43 pools scoring below the range of 0%-20%. These pools were noted to be the City Council Schools and government schools. This showed clearly that there was laxity in terms of inspection and maintenance of PE facilities and equipment in schools which created the need of finding out the status of implementation of recommended safety rules.

## **2.6 Emergency Plans**

The emergency response plan or emergency plan is a system where, if there is an accident or disaster, responsible staff can perform actions according to the systems and procedures that have been set (Zakaria, Harun, Salamuddin and Taff, 2016). They further state that

emergency plans should be reviewed and updated annually with written documentation. MOE (2008) demands that all schools in Kenya adhere to the safety guidelines found in the safety manual. School boards or managements are to create mechanisms and procedures that ensure stakeholders are conversant with measures needed to prevent occurrence of disasters and steps required to reduce the impact. Every school is to post evacuation maps at every entrance and exit to buildings, classrooms, enclosed hallways, stairways and offices. Schools are to schedule practice drill sessions for fire, earthquake, lockdown, shelter-in-place and other situations that the safety committee determines necessary to practice. Fire drills are required once a month. In addition, the guidelines demand that all schools should develop a telephone tree list and should also maintain school emergency kit(s).

Wanjiru (2011) found out that most preschools in Thika West, Kenya had not put in place adequate measures to ensure emergency preparedness when teaching. The teachers cited that there were no emergency awareness programs in their preschools. It was concluded that pre-schools in Thika West district, Kenya did not have enough strategies in place to reduce the risk of emergencies. This finding agrees with WERK (2011) report where only four out of ten schools had the recommended safety manual. This created the need to establish if private primary schools had safety manuals, and if they practiced the guidelines particularly those concerned with PE lessons.

## **2.7 Risk Assessment Plans**

Sports and recreation activities are always exposed to various safety issues before, during and after activities. Positive practices could avoid the occurrence of accidents that cause

injuries to the participants (Zakaria, Harun, Salamuddin and Taff, 2016). According to (MOE in [SSZ], 2008), all schools are required to have disaster risk strategy so that the effects of disasters like fire, floods and earthquakes are minimized.

School managements are to ensure that schools are safe from natural and human made disasters by observing the safety of their operating environments. Prince Edward Island Safety Committee (2010) recommends that any teacher teaching any PA during PE or clubs must take into consideration important factors to manage risks like pre-activity check of the facilities and equipment to be used among others. In their research Kipng`etich, Langat and Willitter (2014) found that facilities and equipment in primary schools where student teachers did their teaching practices were no better. They cited that the lecturers who supervised teacher trainees noted the bad status of PE equipment and facilities where many were ranging from very poor to fairly adequate and in some circumstances, the facilities were unworthy for use. It was concluded that the necessary PE facilities and equipment in colleges and primary schools are of low standard, hence the need to find out if safety precautions were being implemented.

## **2.8 Type of School and Employment of Safety Precautions**

Greenfield, Almond and Edwards (2015) found out that postulated factors affecting PA levels in children include socio economic status, surrounding area, region and ethnicity. They further state that children tend to be more active during the week, and the school they attend, along with the nature and frequency of PE and extracurricular activities, influences their overall activity level, as do the number of extracurricular sports clubs available and the school facilities. In the research they found that children attending

independent schools had more scheduled PE time ( $P < 0.001$ ; 95% confidence interval (CI) 18 to 30 extra min per week). Schools located in the South ( $P < 0.001$ ; 95% CI 2 to 3) and rural areas ( $P < 0.001$ ; 95% CI 3 to 5); or with a higher percentage of pupils eligible for free school meals ( $P < 0.001$ ; 95% CI 3 to 4). Schools in more affluent areas ( $P < 0.001$ ; 95% CI  $-1$  to  $-2$ ) and those with lower percentages of pupils from ethnic minorities ( $P < 0.001$ ; 95% CI  $-1$  to  $-2$ ) also had higher minutes of PE provision per week.

According to Onsomu, Mungai, Sankale and Mujidi (2004), private primary schools are diversely resourced depending on the location, ranging from well-funded elite schools to the poorly funded schools. Kimenyi (2015) states that most low cost private schools are found in slums and rural areas some with facilities that do not meet the required standard. Most private schools in Kenya have a wide range of facilities which makes it possible for them to offer a variety of PA's during PE programs (Globe Media, 2014). Alberta Center for injuries and research (2008) state that PA's offered in schools should consider resources available within the school. Hong Kong Education Bureau (2011) emphasizes the necessity of schools to forecast the potential difficulties, develop possible solutions, and prepare a contingency plan to enhance participants' safety awareness. This study was to find out if there was significant relationship between different types of schools and employment of safety precaution practices during PE lessons.

## **2.9 Summary of the Literature Review**

Greenfield, Almond and Edwards (2015) found that differences in PE were found in relation to school type, socio economic status and geographical factors. Research shows

that safe practice in PE and sport provides a very solid foundation for learning and achievement in all educational settings and across all key stages of education, from the very early years through to post 16 (Shropshire Council, 2016). Safety of children and adolescents during school sports activities is the key issue in methodology of PE (Podstawski, Zwolinska and Nowosielska, 2015). Macharia (2012) established that a close relationship exists between playground safety and children participation in outdoor activities.

Kiganjo, Kamenju and Mwathi (2003) state that even in a well prepared PE lesson; injuries are still likely to occur. They note that it is vital for every PE teacher to have knowledge of First Aid administration. In the research done by Patón, Giráldez and Camiño (2015) on knowing the current situation of First Aid taught at PE in primary schools they found out that less than half of the participant teachers (44.5%) included contents related to first aid in their lessons.

Kamenju, Kiganjo and Mwathi (2006) recommend that safety rules should be posted near areas of increased risks like changing rooms as well as in shower room in schools to reduce occurrences of injuries. Podstawski, Zwolinska and Nowosielska (2015) note that apart from basic safety rules and regulations observed in the school at PE, each PA must have its own set of safety rules, with which all students should familiarize themselves. In the research done by Shetty Memorial Institute of Dental Sciences (2014), it was found out that the level of knowledge of PE teachers of Dakshina Karnada and Udupi districts on the management of dental trauma appeared to be inadequate due to lack of knowledge on the importance of safety gadgets (mouth guards) in highly dangerous physical activities. Macharia (2012) found out that safety rules and regulations in the playgrounds

provided the preschoolers and teachers with the opportunity to participate in enhancing playground safety.

United States Consumer Product Safety Commission [US CPSC], (2010), concluded that routine maintenance inspection of playgrounds is vital. Kipng`Etich et al (2014) in the research found that PE facilities and equipment in colleges and teaching practice primary schools in Rift Valley are utterly wanting. This is an indication that the recommended safety precaution practices on inspection and maintenance of facilities and equipment are not being implemented. Zakaria, Harun, Salamuddin and Taff (2016) stress the need to have emergency plans be reviewed and updated annually with written documentation. Wanjiru (2011) found out that most preschools in Thika West, Kenya had not put in place adequate measures to ensure emergency preparedness when teaching. This creates the need to find out if the recommended safety precaution practices were being employed during PE lessons.

Positive practices could avoid the occurrence of accidents that cause injuries to the participants (Zakaria, Harun, Salamuddin and Taff, 2016). In the research done by Kipng`etich, Langat and Willitter (2014), it was found that facilities and equipment in primary schools where student teachers did their teaching practices were no better, a clear indication that no risk assessment, inspection and maintenance was being carried out.

It is very clear that the issue of safety during PE lesson is a worldwide concern. It is also evident that Kenyan schools have not taken this issue very seriously and no wonder the government, through the Ministry of Education directed all schools to have and practice the recommended safety practices to protect children in schools. It is in this connection

that this study aimed at finding out if the recommended safety precaution practices during PE in private primary schools within Nairobi City County, Kenya are being implemented.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Research Design**

The study adopted the cross sectional analytical research design to assess safety precautions observed during PE. Cross sectional analytical research design allows the researcher to record information about the subjects without manipulating the study environment at any point in time. It also compares different population groups at a single point in time (Olsen and Marie, 2004).

### **3.2 Measurements of Research Variables**

The study's dependent variable was safety precautions. The researcher established the safety precautions that were available and being employed against those recommended. The independent variables were facilities, equipment, type of PA and supervision. Facilities and equipment were to be assessed in terms of their availability, status and sufficiency. Type of activity was to be evaluated on how appropriate they were in relation to facilities and equipment (school resources) available in schools. Supervision was assessed by looking at measures that the school had put in place to ensure that there was vigilant and active supervision during PE lessons, and safety rules and regulations were being adhered to during PE lessons. Inspection of facilities, equipment and supervision were assessed by use of self-administered questionnaires, interview based questionnaire guides and observation checklists. Type of activity was evaluated by self-administered questionnaires and observation checklists.

### **3.3 Location of the Study**

The location of the study was Nairobi City County (Map in Appendix: K). Nairobi has a large number of private schools which have students and teachers from diverse areas and economic status, therefore making the area ideal for the study. Private schools were targeted since most of them have a variety of both indoor and outdoor facilities for PE, unlike in public schools.

### **3.4 Target Population**

There are approximately 2000 private primary schools within Nairobi City County (Ministry of Education Science and Technology [MOEST], 2014). The schools were stratified into three strata: high, medium and low cost private schools. There are 15 high cost, 25 medium cost and 1, 960 low cost schools. The population consisted of standard five, six and seven or grade five, six and seven pupils and PE teachers. Class representatives of these classes (one per class) were involved in the study resulting to a total population of 6,000 Pupils. Two PE teachers per school were involved in the study (4000) in total. The scope of the study was confined to PE lessons done within the school compound and time. The study sampled the pupils since they were directly involved in the PE activities and were likely to get involved in accidents and incur injuries during PE lessons. A representative from the class was to report on the safety issues for their class. PE teachers are direct implementers of safety precautions since they owe duty of care to the pupils as recommended by Fitzroy legal services, 2015.

### **3.4.1 Inclusion Criteria**

The study included only private primary schools in Nairobi City County. It also included only PE teachers and pupils of standard five, six and seven or grade five, six and seven.

### **3.5 Sampling Procedure and Sample Size**

The sample size for this study was obtained using proportional stratified random sampling procedure. The schools were stratified into three strata: high, medium and low cost private schools. Schools charging tuition fee of 300,000 Kenya shillings and above per term represented high cost. Those charging between 100,000 to 299,000 Kenya shillings as tuition fee per term represented medium cost. Schools charging below 100,000 Kenya shillings as tuition fee per term represented low cost.

From the target population of 2000 private primary schools, 1960 are low cost, 25 are medium cost and 15 are high cost. Nairobi City County has 9 sub counties. Five sub counties were purposely chosen (56%) from where the stratified schools were selected. The names of the 9 sub counties were assigned numbers (1-9). The numbers were written on small pieces of papers which were folded, mixed and put in a tin. The researcher randomly picked the first number then mixed again the papers to pick the second one. This was continued until the required samples of sub counties were achieved. Proportions were used to get sample sizes for schools. Since low cost schools greatly out-numbered the other categories, they were given a proportion that was half the entire population (0.5). This was equivalent to 10 schools. A proportion of 0.3 and 0.2 was used to get the sample size of medium and high cost schools respectively (6 medium and 4 high cost schools). Stratified schools from the five purposely selected sub counties were assigned numbers. The numbers were written on small pieces of papers which were put in tins.

The researcher randomly picked the papers until the required sample of 20 schools was achieved. Classes, pupils and PE teachers were randomly picked from these schools. Rumsey (2015) states that if a large enough statistical sample size is used, then the Central Limit Theorem (CLT) can be applied to a sample proportion for categorical data to find its sampling distribution.

**Table 3.1: Sampling Frame Size**

<b>Total No. of sub counties</b>	<b>9</b>			<b>100%</b>
	<b>Type of school</b>			<b>Total</b>
	<b>Low cost</b>	<b>Medium cost</b>	<b>High cost</b>	
Private schools	1960	25	15	2000
Total number of PE teachers (2 per school)	3920	50	30	4000
Total number of pupils (3 per school).	5880	75	45	6000

**Table 3. 2: Sampling Sample Size Table**

<b>Target No. of sub counties</b>	<b>5</b>			<b>56%</b>
	<b>Type of school</b>			<b>Total</b>
	<b>Low cost</b>	<b>Medium cost</b>	<b>High cost</b>	
Target Proportion	0.5	0.3	0.2	1
Target number of schools	10	6	4	20
Target number of teachers	20	12	8	40
Target number of pupils (3 per school).	30	18	12	60

### **3.6 Research Instruments**

The study used self-administered questionnaires constructed by the researcher to collect data from PE teachers (Appendix: E). The questionnaires had twenty two items and two

sections (A and B). Section A addressed the demographic characteristics of the respondents while Section B addressed the research variables. The structured closed items assessed the status and sufficiency of facilities and equipment. Type of activity was assessed based on school resources and teacher expertise. Supervision was examined through the assessment of level of activity, number of participants and skill level of participant. Interview based questionnaire guides, constructed by the researcher were used to collect information from pupils (Appendix: I). Section A addressed the demographic characteristics of the respondents while section B addressed the research variables. They assessed safety awareness of pupils during PE programs. According to Njenga and Kabiru (2009) verbal interviews are the best instruments to use when collecting data from young children.

Observation checklists were used to obtain first-hand information. They consisted of structured guidelines. The variables of facilities, equipment, supervision, type of activity and safety precautions employed were assessed using this tool. According to Mutai (2000), observation draws on the direct evidence of the eye to witness events first hand. The instruments were validated by the specialized academic staff in the department of Recreation Management and Exercise Science of Kenyatta University.

### **3.7 Pre Test**

A pretest was done prior to the main study on one high cost, one medium and one low cost school. Nine pupils (3 per each stratum) were interviewed and six PE teachers completed the questionnaires and the researcher carried out the observation pretest. The schools used in the pretest study were excluded from the actual research. The pretest

helped to determine the suitability, appropriateness, clarity and reliability of the instruments. It also assessed the items that addressed the variables under investigation.

### **3.8 Instrument Validity**

The research instruments were assessed during the pretest study on the accuracy and relevance of the content used. The researcher's supervisors in the departments of Recreation Management and Exercise Science and Physical and Health Education of KU checked the content, structure and appropriateness and provided feedback to the researcher which was later incorporated in the final research instruments.

### **3.9 Reliability of the Instrument**

The test re-test method was used to determine the reliability of the instruments. This was done by administering the questionnaires to six PE teachers and conducting interviews to nine pupils in the selected three schools. Observation was also carried out in the three schools. A reliability coefficient was then computed using Cronbach's Alpha of which a Cronbach's coefficient Alpha of  $\geq 0.6$  reflected the reliability of the instruments, and was therefore, accepted.

### **3.10 Data Collection Procedures**

The researcher began data collection immediately after receiving permission from the head teachers of the schools. The first exercise was observation during PE lessons followed by interviewing the sampled pupils for ten minutes during the PE lesson. Data collected was then recorded. This was done once. Lastly, the researcher distributed questionnaires to PE teachers who were required to respond to the questions in the questionnaire for 15 minutes. Follow up was made to ensure that the questionnaires were fully completed before collecting them.

### **3.11 Data Analysis**

The statistical Package for Social Sciences (SPSS) version 23 was used to code and analyze the data. It was most suitable due to its additional features where data output is accompanied by simple explanations for ease in understanding the results (KirkPatrick, 2015). The analysis procedure employed both qualitative and quantitative procedures. In qualitative interview guide questions and observation checklists were coded and analyzed. Codes were assigned to the transcripts according to the themes then analyzed and findings were presented using charts and tables. Quantitative analysis was used to analyze the questionnaires. The descriptive results are presented in frequency tables and charts to give clear visual presentation (Mugenda & Mugenda, 2003). Chi square was used to test the relationship between different variables and employment of safety precautions. This was at a significant level of 0.05.

### **3.12 Logistical and Ethical Considerations**

Clearance to collect data was sought and obtained from Kenyatta University Graduate School and Kenyatta University ethics review board (Appendix: B). An authorization letter was also obtained from the County Education office (Appendix: C). The PE teachers were asked to give their consent to participate by signing consent forms (Appendix: E). Parents' received consent forms (Appendix: F) to sign if they approved the participation of their children in the study. Pupils whose parents gave consent were given assent forms (Appendix: G) to sign if they agreed to participate in the study. The respondents were informed of the purpose and nature of the study and assured of confidentiality of gathered information.

## **CHAPTER FOUR: FINDINGS**

### **4.1 Introduction**

This chapter presents results and their interpretation. The general objective of the study was to assess safety precautions employed during PE lessons in private primary schools in Nairobi City County. The major focus therefore included the availability, accessibility and use of fully equipped First Aid kits during PE lessons, the availability of rules and regulations during PE lessons and availability, and adherence to inspection and maintenance schedules of facilities and equipment during PE lessons. Other variables included availability of emergency plans, risk assessment plans and type of school and employment of safety precautions in private primary schools in Nairobi City County, Kenya. The researcher used questionnaires on PE teachers and interview based questionnaires on pupils to obtain data. All sampled 20 private primary schools were visited. All questionnaires were completely filled and returned hence the return rate was 100%. Pupils also responded to all interview based questions. The observation checklist developed by the researcher enabled her to observe how safety precautions were being employed during PE lessons.

### **4.2 Socio Demographic Characteristics of the Respondents**

The respondents of this study involved PE teachers and pupils in the three types of private primary schools (high, middle and low cost) in Nairobi City County.

#### **4.2.1: Gender**

This study involved a representative sample of PE teachers and pupils of classes/ grades five, six and seven in private primary schools in Nairobi City County, Kenya. Out of the 40 PE teachers sampled, 50% were male and 50% were female. Out of 60 sampled

pupils 51.7% were male and 48.3% were female. This comprised 100% of the sampled respondents.

### **4.3 First Aid: availability, accessibility and utilization**

#### **4.3.1: Availability of First Aid Kits in Private Primary Schools in Nairobi City County**

Results of the study indicate that First Aid kits were available during PE lessons in all private primary schools in Nairobi City County.

#### **4.3.2: Availability of First Aid Kits during PE lessons in Private Primary Schools in Nairobi City County**

The study indicates that 62.5% of PE lessons in private primary schools in Nairobi City County had First Aid kits while 37.5% did not have. Chi Square value of  $X^2=5.369$  and  $p$  value of 0.068 showed that there was no significant relationship between the types of school and availability of First Aid kits during PE lessons. More details on the availability of the first aid kits during PE lessons are presented in Table 4.1.

#### **4.3.3: PE Teachers with Knowledge in First Aid in Private Primary Schools in Nairobi City County**

The study findings as presented in Table 4.1 indicate that 31(77.5%) of PE teachers had knowledge in administering first aid with the highest percentage coming from high cost 8(100.0%) and middle cost schools 12(100.0%). Computation of Chi Square was done and the results  $X^2=11.613$  and  $p$  value of 0.003 showed that there was significant relationship between the types of school and the knowledge the PE teacher had in administering first aid.

#### **4.3.4: Adequacy of First Aid Kits during PE lessons in Private Primary Schools in Nairobi City County**

It is evident from the findings of the study in Table 4.1 that a higher proportion of PE lessons conducted in private primary schools had inadequate First Aid kits 33(55.0%). Very few PE lessons 3(16.7%) from middle cost schools that were conducted were reported to have very adequate first aid kits. The Chi Square value of  $X^2=55.752$  and  $p<0.001$  indicated that there was significant relationship between the types of school and adequacy of First Aid kits during PE lessons.

#### **4.3.5: Inspection of First Aid Kit Content in Private Primary Schools in Nairobi City County**

Results of the study indicate that 55% of teachers indicated that inspection of the First Aid kit content was done during the PE teachers' free time. Only 10% of the teachers reported to have checked the First Aid kit content on daily basis. Chi Square value of  $X^2=25.665$  and  $p<0.001$  showed that there was significant relationship between the types of school and inspection of First Aid kit content.

**Table 4.1: First Aid in Private Primary Schools (PE teachers' response)**

Variable		Categories of schools			Total 40(100) <i>f</i> (%)	Chi square value
		High cost 8(20) <i>f</i> (%)	Middle cost 12(30) <i>f</i> (%)	Low cost 20(50) <i>f</i> (%)		
PE teacher has knowledge in administering first aid	Yes	8(100)	12(100)	11(55)	31(77.5)	<i>P</i> =.003
	No	0(0.0)	0(0.0)	9(45.0)	9(22.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	
Availability of first aid kit during PE lessons	Yes	6(75)	10(83.3)	9(45)	25(62.5)	<i>P</i> =.068
	No	2(25.0)	2(16.7)	11(55.0)	15(37.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	
Adequacy of first aid kit	Not adequate	0(0.0)	3(16.7)	30(100)	33(55).	<i>P</i> <.001
	Slightly adequate	5(41.7)	9(50)	0(0.0)	14(23.3)	
	Adequate	6(50)	3(16.7)	0(0.0)	9(15)	
	Very Adequate	1(8.3 )	3(16.7)	0(0.0)	4(6.7)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	

#### **4.3.6: Pupils know where the First Aid rooms are located in Private Primary Schools in Nairobi City County**

It was reported by the pupils that 88.7% of pupils in private primary schools knew where the First Aid rooms were located in their schools; 12(100.0%) from high cost and 12(100.0%) from middle cost. Only 31.7% of pupils did not know where the First Aid

rooms were located in their schools; majority of them 23(76.7%) being from low cost schools. Chi Square value of  $X^2 = 7.925$  and  $p$  value of 0.019 revealed that there was significant relationship in pupils knowing the location of the First Aid room between the types of school. Details of more results on pupils knowing the location of the first aid room and the type of school are presented in Table 4.2.

#### **4.3.7: Pupils being given First Aid during ongoing PE lessons in Private Primary Schools in Nairobi City County**

Out of the 60 pupils interviewed, 68.3% reported that they had seen their classmates being given first aid during ongoing PE lessons 8(66.7%) being from high cost, 15(83.3%) from middle cost and 18(60.0%) from low cost schools. Only 31.7% of pupils stated that they had never seen any of their classmates being given first aid. To determine if there was significant relationship between the pupils being given first aid during PE lesson and the type of school, the Chi Square value was computed and the results  $X^2 = 2.850$  and  $p$  value of 0.241 showed that there was no significant relationship in the pupils being given first aid during PE lesson between the types of school. More details are presented in Table 4.2.

**Table 4.2: First Aid in Private Primary Schools in Nairobi City County (Pupils' response)**

Variable	Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
	High cost 12(20) <i>f</i> (%)	Middle cost 18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
Classmates know where the first aid room is located	Yes	12(100)	18(100)	23(76.7)	<i>P</i> =.019
	No	0(0.0)	0(0.0)	7(23.3)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>
Seen a pupil being given first aid during PE lesson	Yes	8(66.7)	15(83.3)	18(60.0)	<i>P</i> =.241
	No	4(33.3)	3(16.7)	12(40.0)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>

#### **4.4: Safety Rules and Regulations during PE lessons**

##### **4.4.1: Availability of Safety Rules and Regulations during PE lessons in Private Primary schools in Nairobi City County (Researcher's observation)**

It is evident from the findings of the study in figure 4.1 below, that 33(85.0%) of the PE lessons conducted in private primary schools had safety rules displayed. Only 6(15.0%) did not have safety rules displayed. Computed Chi Square value of  $X^2 = 7.464$  and *p* value of 0.024 showed that there was significant relationship in the availability of safety rules and regulations during PE lessons between the type of school.

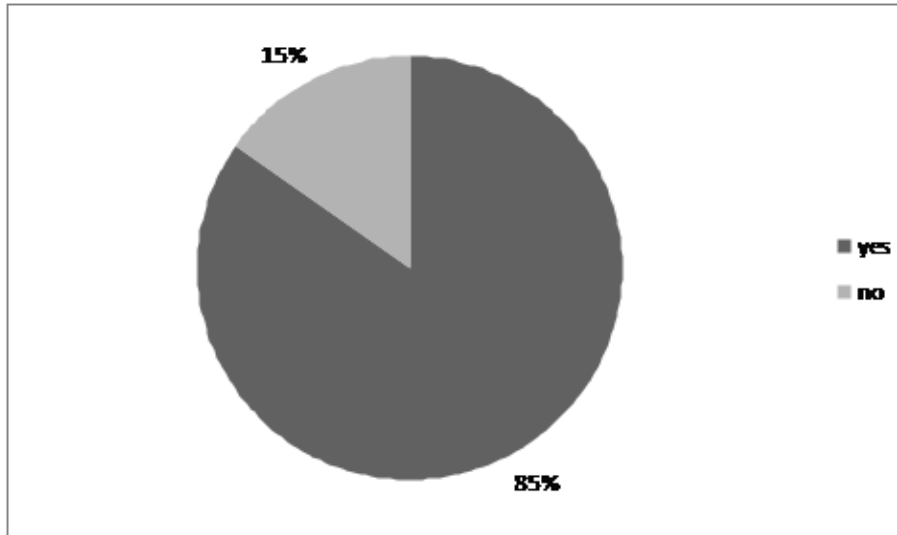


Figure 4.1: Availability of Safety Rules and Regulations during PE lessons in Private Primary Schools in Nairobi City County

#### 4.4.2: Wearing of the PE Kit by Pupils during PE lessons (Researcher's observation)

From the study findings in Table 4.3, a higher proportion of pupils 33(55.0%) had PE kits during PE lessons, majority 12(100.0%) being from high cost schools while 27(45.0%) did not have PE kits during PE lessons, majority 15(50.0%) being from low cost schools. To find out if there was a significant relationship between the type of school and wearing of PE kits by pupils during PE lessons, the Chi Square value of  $X^2=13.535$  and  $p<0.001$  revealed that there was significant relationship between the types of school pupils attended in the wearing of PE kits during PE lessons.

#### 4.4.3: Presence and absence of the PE Teacher during PE lessons in Private Primary Schools in Nairobi City County

Out of the 60 PE lessons observed as evident in Table 4.3, all (100.0%) were reported to be under the supervision of a PE teacher or PE teachers.

#### **4.4.4: Attention to the pupils during PE lessons in Private Primary Schools in Nairobi City County**

Results of the study indicate that a higher percentage of 51.7% of PE lessons observed had PE teachers who did not offer attention to pupils; majority 31(51.7%) were from low cost schools. PE lessons where pupils were given attention had 48.3%; majority 12(100.0%) were from high cost schools. Computed Chi Square value of  $X^2 = 53.860$  and  $p < 0.001$  revealed that there was significant relationship in the attention given to the pupils during PE lessons between the types of school. Details of more results on attention given to pupils during PE lesson and the type of school are presented in Table 4.3.

**Table 4.3: Safety Rules and Regulations in Private Primary Schools in Nairobi City County (Pupils' response and Researcher's observation)**

Variable		Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
		High cost 12(20) <i>f</i> (%)	Middle cost18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
Everyone put on PE kits	Yes	12(100.0)	6(33.3)	15(50.0)	33(55.0)	<i>P</i> <.001
	No	0(0.0)	12(66.7)	15(50.0)	27(45.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Presence or absence of the teacher during the PE lesson	Present	12(100)	18(100)	30(100)	60(100)	
	Absent	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Attention to pupils during the PE lesson	Attention	12(100)	9(31)	8(26.7)	29(48.3)	<i>P</i> <.001
	No attention	0(0.0)	9(29)	22(73.3)	31(51.7)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	

**4.4.5: Presence of Safety gadgets during PE lessons in Private Primary Schools in Nairobi City County (Researcher's observation)**

From the study findings in Table 4.4, a higher proportion of PE lessons 28(46.7%) conducted in private primary schools did not have safety gadgets in activities that required them. 20(33.3%) of PE lessons conducted in these schools had required safety gadgets where majority 12(100.0%) were from high cost followed by 8(44.4%) from

middle cost schools. The Chi square value of  $X^2=45.714$  and  $p < 0.001$  revealed that there was significant relationship between the types of school in pupils wearing safety gadgets in activities that required them to put on during PE lessons, with high cost schools associated with mostly having safety gadgets in place and low cost the least.

#### **4.4.6: Presence of Cool down session during PE lessons in Private Primary Schools in Nairobi City County**

Results of the study indicate that a higher percentage of PE lessons conducted (75.0%) did not have cool down activity at the end of the lesson; majority 45(75.0%) were from low cost schools. Only 25% of these lessons were reported to have had cool down activity; majority 5(41.7%) were from high cost schools. Chi Square value of  $X^2 =7.230$  and  $p$  value of 0.027 showed that there was significant relationship between the types of school in the presence of cool down during PE lessons. Details of more results on the presence of cool down and the type of school are presented in Table 4.4.

#### **4.4.7: Execution of Correct Warm up session during PE lessons in Private Primary Schools in Nairobi City County (Researcher's observation)**

It is evident from the study findings in Table 4.4, that out of all PE lessons that had warm up sessions, 24(40.0%) were reported to be correct with the highest percentage 9(75.0%) from high cost schools followed by middle cost schools at 12(66.7%).18(30.0%) of the warm up sessions were reported to be wrong with the highest percentage18 (30.0%) being from low cost schools. Chi Square value of  $X^2 =25.718$  and  $p<.001$  showed that there was significant relationship between the types of school in the presence of correct warm up during PE lessons.

**Table 4.4: Safety Rules and Regulations in Private Primary Schools in Nairobi City County (Researcher's observation)**

Variable	Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value	
	High cost 12(20) <i>f</i> (%)	Middle cost18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)			
Presence of safety gadgets during the PE lesson	Present	12(100)	8(44.4)	0(0.0)	20(33.3)	<i>P</i> <.001
	Absent	0(0.0)	10(55.6)	18(60.0)	28(46.7)	
	Not required	0(0.0)	0(0.0)	12(40)	12(20.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Execution of correct warm up during the PE lesson	Correct	9(75.0)	12(66.7)	3(10.0)	24(40.0)	<i>P</i> <.001
	Wrong	3(25.0)	4(22.2)	11(36.7)	18(30.0)	
	Not applicable	0(0.0)	2(11.1)	16(53.3)	18(30.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Presence of cool down during the PE lesson	Present	5(41.7)	7(38.9)	3(10.0)	15(25.0)	<i>P</i> =.027
	Absent	7(58.3)	11(61.1)	27(90.0)	45(75.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	

#### 4.5 Inspection and Maintenance Schedules of PE Facilities and Equipment

##### 4.5.1: PE Teachers having Written Reports about PE Facilities and Equipment (PE teachers' response)

From the study finding in Table 4.5, out of the 40 respondents, a higher proportion of 26 (65.0%) of PE teachers did not have written records about PE facilities and equipment in private primary schools. Only 14(35.0%) with 4(50.0%) from high cost and 10(83.3%) from middle cost schools had written records for PE facilities and equipment. Chi Square

value of  $X^2=23.883$  and  $p<.001$  indicated that there was significant relationship in PE teachers having written reports between types of school.

**4.5.2: Frequency of Inspection of the PE facilities in Private Primary Schools in Nairobi City County (PE teachers' response)**

It is evident from results in Table 4.5, that a higher proportion of PE equipment 17(42.5%) were inspected when need arose, followed by 9(22.5%) that were inspected on daily basis. Chi Square value of  $X^2 =10.091$  and  $p$  value of .259 showed that there was no significant relationship in the frequency of inspection of facilities by the PE teacher between the types of school taught.

**Table 4.5: Inspection of Facilities and Equipment in Private Primary Schools in Nairobi City County (PE teachers' response)**

Variable		Categories of schools			Total 40(100) <i>f</i> (%)	Chi square value
		High cost 8(20) <i>f</i> (%)	Middle cost12(30) <i>f</i> (%)	Low cost 20(50) <i>f</i> (%)		
PE teachers have written reports about PE facilities and equipment	Yes	4(50.0)	10(83.3)	0(0.0)	14(35.0)	<i>P</i> <.001
	No	4(50.0)	2(16.7)	20(100.0)	26(65.0)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	
Frequency of inspection of PE facilities	Termly	2(25.0)	0(0.0)	5(25.0)	7(17.5)	<i>P</i> =.259
	Weekly	0(0.0)	2(16.7)	3(15.0)	5(12.5)	
	Beginning of academic year	1(12.5)	1(8.3)	0(0.0)	2(5.0)	
	Beginning of academic year	3(37.5)	4(33.3)	2(10.0)	9(22.5)	
	Daily	3(37.5)	4(33.3)	2(10.0)	9(22.5)	
	When need arises	2(25.0)	5(41.7)	10(50.0)	17(42.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	

### 4.5.3: The Person who Inspects PE Facilities in Private Primary Schools in Nairobi City County (PE teachers' response)

It is evident from the findings in Table 4.6, that a higher proportion of PE facilities 31(77.5%) were reported to have been inspected by PE teachers especially in middle cost schools. Chi Square value of  $X^2=8.427$  and  $p$  value of 0.208 showed that there was no significant relationship in the person who inspected PE facilities between the types of school.

**Table 4.6: Inspection of Facilities and Equipment in Private Primary Schools in Nairobi City County (PE teachers' response)**

Variable	Categories of schools			Total 40(100) <i>f</i> (%)	Chi square value
	High cost 8(20) <i>f</i> (%)	Middle cost12(30) <i>f</i> (%)	Low cost 20(50) <i>f</i> (%)		
	PE facilities are inspected by	Any teacher who is assigned	1(12.5)		
	Subordinate staff	0(0.0)	0(0.0)	1(5.0)	
	Head of school	0(0.0)	0(0.0)	4(20.0)	
	PE teacher	7(87.5)	12(100.0)	12(60.0)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>

## **4.6 Emergency Plans in the School**

### **4.6.1: Presence of an Emergency Program in Private Primary Schools in Nairobi City County**

From the study findings in Table 4.7, a higher proportion of 34(85.0%) of PE teachers reported to have had emergency programs in their schools with majority 8(100.0%) and 12(100.0%) from high cost and middle cost schools respectively. Only 6(15.0%) of PE teachers reported that they did not have emergency programs in their schools. Chi Square value of  $X^2=7.059$  and  $p$  value of 0.029 showed that there was significant relationship in presence of emergency programs between the types of school.

### **4.6.2: Access to Communication Device in time in case of an emergency in Private Primary Schools in Nairobi City County (PE teacher's response)**

Out of the 40 respondents (PE teachers) sampled, 38(95.0%) of them reported that they were able to access communication devices in case of an emergency, while 2(5.0%) reported that they were not able to access to communication devices in case of an emergency. Chi Square value of  $X^2=8.453$  and  $p$  value of 0.076 revealed that there was no significant relationship in access to communication device by the PE teacher between the types of school.

### **4.6.3: Insurance Covers in Private Primary Schools in Nairobi City County (PE teachers' response)**

Results of the study as reported by the PE teachers indicate that most schools had insurance covers 31(77.5%) as from the findings in Table 4.7. High cost schools 8(100.0%) and middle cost schools 12(100.0%) all had insurance covers while low cost

schools with insurance covers registered a percentage of 11(55.0%). Chi Square value of  $X^2 = 11.613$  and  $p$  value of 0.003 showed that there was significant relationship in the availability of insurance covers between the types of school.

#### **4.6.4: Conversance with the Procedures of the School Insurance Covers by the PE Teachers in Private Primary Schools in Nairobi City County (PE teachers' response)**

It is evident from the study findings in Table 4.7, that PE teachers with an average level of being conversant with insurance cover procedures registered the highest proportion of 12(30.0%) with 3(37.5%) being from high cost followed by 4(33.3%) from middle cost and 5(25.0%) from low cost schools. PE teachers with an excellent level of conversant with insurance cover procedures registered the lowest proportion of 1(2.5%). Chi Square value of  $X^2 = 24.409$  and  $p$  value of 0.007 showed significant relationship in conversance of insurance cover between the types of school.

**Table 4.7: Emergency Programs in Private Primary Schools in Nairobi City County  
(PE teachers' response)**

Variable		Categories of schools			Total 40(100) <i>f</i> (%)	Chi square value
		High cost 8(20) <i>f</i> (%)	Middle cost12(30) <i>f</i> (%)	Low cost 20(50) <i>f</i> (%)		
Presence of an emergency program in the school	Yes	8(100.0)	12(100.0)	14(70.0)	34(85.0)	<i>P</i> =.029
	No	0(0.0)	0(0.0)	6(30.0)	6(15.0)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	
School has Insurance cover	Yes	8(100.0)	11(100.0)	12(55.0)	31(77.5)	<i>P</i> =.003
	No	0(0.0)	0(0.0)	9(45.0)	9(22.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	
Conversance of the PE teacher with the procedures of the school insurance cover	Below Average	2(25.0)	1(8.3)	4(20.0)	7(17.5)	<i>P</i> =.007
	Average	3(37.5)	4(33.3)	5(25.0)	12(30.0)	
	Good	3(37.5)	2(16.7)	2(10.0)	7(17.5)	
	Very good	0(0.0)	4(33.3)	0(0.0)	4(10.0)	
	Excellent	0(0.0)	1(8.3)	0(0.0)	1(2.5)	
Not applicable		0(0.0)	0(0.0)	9(45.0)	9(22.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	

**4.6.5: Pupils had Knowledge of the Fire Assembly Point where pupils were to assemble in Private Primary Schools in Nairobi City County (Pupils response)**

Results of the study indicate that majority of pupils (52.0%) assembled at the fire assembly point during an emergency with the highest percentage 8(100.0%) being from high cost schools followed by 40% of pupils who were reported to have assembled in the open field during emergency with majority 15(75.0%) being from middle cost schools. Chi Square value  $X^2$  of = 29.159 and  $p < .001$  revealed that there was significant relationship in the pupils assembling at the designated fire assemble place between the types of school. Details of more results are presented in Table 4.8.

**Table 4.8: Emergency Plans in Private Primary Schools in Nairobi City County (pupils' response)**

Variable		Categories of schools			Total 60(100) f (%)	Chi square value
		High cost 12(20) f (%)	Middle cost18(30) f (%)	Low cost 30(50) f (%)		
During emergency, pupils assemble	Fire assembly point	8(100.0)	11(91.7)	2(10.0)	21(52.5)	$P < .001$
	We don't know	0(0.0)	0(0.0)	1(5.0)	1(2.5)	
	Open field	0(0.0)	1(8.3)	15(75.0)	16(40.0)	
	Others	0(0.0)	0(0.0)	2(10.0)	2(5.0)	
<b>Total</b>		<b>12(100.0)</b>	<b>18(100.0)</b>	<b>30(100.0)</b>	<b>60(100.0)</b>	

#### **4.7. Risk Assessment Plans in the School**

##### **4.7.1: Availability of Open Fields in Private Primary Schools in Nairobi City County**

Out of the 20(100.0%) private schools sampled, it was observed that all had open fields.

##### **4.7.2: Condition of Open Fields in Private Primary Schools in Nairobi City County**

###### **(Researcher's observation)**

The findings of the study as presented in Table 4.9, shows that majority of private primary schools had open fields in an average condition of 40% followed by those with fields in good condition, at 30%. Schools with fields that had poor condition were the least with 5%. High cost schools with good condition of fields constituted the highest percentage of 58.3% followed by middle cost schools with 50%. Schools with excellent fields registered a percentage of 41.7% while low cost schools registered the highest percentage of 33.3% of fields that were below average in condition. The Chi Square value of  $X^2 = 50.056$  and  $p < 0.001$  revealed that there was significant relationship in the condition of open fields between types of school.

**Table 4.9: Risk Assessment of Facilities in Private Primary Schools in Nairobi City County (Researcher's observation)**

Variable		Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
		High cost 12(20) <i>f</i> (%)	Middle cost 18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
Adequacy of open fields	Not Adequate	0(0.0)	1(5.9)	16(94.1)	17(28.3)	$P < .001$
	Slightly Adequate	0(0.0)	4(36.4)	7(63.6)	11(18.3)	
	Adequate	6(27.3)	9(40.9)	7(31.8)		
	Very Adequate	5(62.5)	3(37.5)	0(0.0)	22(36.7)	
	Exceptionally				8(13.3)	
	Adequate	1(50.0)	1(50.0)	0(0.0)	2(3.4)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Condition of open fields	Poor	0(0.0)	0(0.0)	3	3(5.0)	$P < .001$
	Below Average	0(0.0)	0(0.0)	10	10(16.7)	
	Average	0(0.0)	9(50.0)	15	24(40.0)	
	Good	7(58.3)	9(50.0)	2	12(30.0)	
	Excellent	5(41.7)	0(0.0)	0	5(8.3)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	

#### **4.7.3: Adequacy of Open Fields in Private Primary Schools in Nairobi City County (Researcher's observation)**

From the study findings in Table 4.10, it was reported by the researcher that private primary schools with adequate fields registered a higher proportion of 22(36.7%)

followed by those without adequate fields 17(28.3%). High cost and middle cost schools were reported to have the highest proportion of adequate fields at 6(50.0%) and 9(50.0%) respectively. Low cost schools registered a higher proportion of schools without adequate fields 16(53.3%). Chi Square value of  $X^2=32.522$  and  $p<.001$  showed that there was significant relationship in the adequacy of open fields between the types of school.

#### **4.7.4: Adequacy of Indoor courts in Private Primary Schools in Nairobi City County (Researcher's observation)**

Results of the study indicate that private primary schools that did not have indoor courts registered a higher proportion of 30(50.0%), majority 30(100.0%) being from low cost schools. Private primary schools with indoor courts that were slightly adequate registered a proportion of 9(15.0%) with the highest percentage 9 (50.0%) from middle cost schools followed by those with very adequate at, 8(13.3%) majority 7 (58.3%) being from high cost schools. Details on more results are presented in Table 4.10. Chi Square value of  $X^2=112.708$  and  $p<.001$  showed that there was significant relationship in the adequacy of indoor courts between the types of school.

#### **4.7.5: Availability of Games balls (Researcher's observation and Pupils' response)**

Out of the 20 private primary schools that were sampled, all 20(100.0%) had games balls during PE lessons.

#### **4.7.6: Adequacy of Games balls in Private Primary Schools in Nairobi City County**

Results of the study indicate that low cost schools without adequate games balls registered a higher percentage of 60% followed by high cost schools with very adequate ball games at 58.3% as per the findings in Table 4.10. The Chi Square value of  $X^2 =$

71.151 and  $p < .001$  revealed that there was significant relationship between the types of school in the adequacy of games balls.

**Table 4.10: Risk Assessment of Facilities and Equipment in Private Primary Schools in Nairobi City County (Researcher's observation)**

Variable	Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
	High cost 12(20) <i>f</i> (%)	Middle cost 18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
Adequacy of indoor courts	Not Adequate	0(0.0)	1(6.6)	0(0.0)	$P < .001$
	Slightly Adequate	0(0.0)	9(50.0)	0(0.0s)	
	Adequate	0(0.0)	5(27.8)	0(0.0)	
	Very Adequate	7(58.3)	1(5.6)	0(0.0)	
	Exceptionally Adequate	5(41.7)	0(0.0)	0(0.0)	
	Non Applicable	0(0.0)	0(0.0)	30(100.0)	
<b>Total</b>	<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	
Adequacy of games balls	Not Adequate	0(0.0)	0(0.0)	18(60.0)	$P < .001$
	Slightly Adequate	0(0.0)	3(16.7)	11(36.7)	
	Adequate	1(8.4)	10(55.6)	1(3.3)	
	Very Adequate	7(58.3) 4(33.3)	5(27.8) 0(0.0)	0(0.0) 0(0.0)	
	Exceptionally Adequate				
<b>Total</b>	<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	

**4.7.7: Condition of Games balls in Private Primary Schools in Nairobi City County (Researcher's observation)**

The findings of the study in Table 4.11, shows that private primary schools with games balls that were in good condition constituted a higher percentage of 45% with the highest percentage 7(38.9%) being from middle cost schools followed by those with balls in excellent condition at, 41.7% with the highest percentage of 12(100.0%) from high cost schools. Schools with balls in average condition were least with 13.3%. Chi Square value of  $X^2= 36.932$  and  $p <.001$  revealed that there was a significant relationship between the types of school and the condition of games balls.

**4.7.8: Availability of Swimming pools in Private Primary Schools in Nairobi City County (Researcher's Observation)**

Out of the 60(100.0%) private primary schools sampled, it was observed that 33(55.0%) of them had swimming pools while 27(45.0%) had none. Chi Square value of  $X^2=49.091$  and  $p<.001$  showed that there was a significant relationship in the availability of swimming pools between the types of school.

**4.7.9: Condition of Swimming pools in Private Primary Schools in Nairobi City County (Researcher's observation)**

The findings in table 4.11, shows that a higher proportion of 18(30.0%) of private primary schools were reported to have had swimming pools that were in good condition with the highest percentage 15(83.3%) being from middle cost schools followed by those that had swimming pools in excellent condition at 15(25.0%) with majority 12(100.0%) being from high cost schools. Details of more results on the condition of swimming pools

are presented in Table 4.11. Chi Square value of  $X^2=86.667$  and  $p<.001$  showed that there was significant relationship in the condition of the swimming pools between the types of school.

**Table 4.11: Risk Assessment of Facilities and Equipment in Private Primary Schools in Nairobi City County (Researcher's observation)**

Variable		Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
		High cost 12(20) <i>f</i> (%)	Middle cost 18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
Condition of games balls	Average	0(0.0)	0(0.0)	8(26.7)	8(13.3)	$P<.001$
	Good	0(0.0)	7(38.9)	20(66.7)	27(45.0)	
	Excellent	12(100)	11(61.1)	2(6.6)	25(41.7)	
<b>Total</b>		<b>12(100)</b>	<b>18(100.0)</b>	<b>30(100.0)</b>	<b>60(100.0)</b>	
Condition of indoor courts	Average	0(0.0)	15(83.3)	3(10.0)	18(30.0)	$P<.001$
	Good	12(100.0)	3(16.7)	0(0.0)	15(25.0)	
	Excellent	0(0.0)	0(0.0)	27(90.0)	27(45.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100.0)</b>	<b>30(100.0)</b>	<b>60(100.0)</b>	
Condition of swimmin g pools	Good	0(0.0)	15(83.3)	3(10.0)	18(30.0)	$P<.001$
	Excellent	12(100.0)	3(16.7)	0(0.0)	15(25.0)	
	Not applicable	0(0.0)	0(0.0)	27(90.0)	27(45.0)	
<b>Total</b>		<b>12(100)</b>	<b>18(100.0)</b>	<b>30(100.0)</b>	<b>60(100.0)</b>	

**4.7.10: What a Pupil does when given broken equipment by the PE Teachers in Private Primary Schools in Nairobi City County (Pupils' response)**

From the findings in table 4.12, a higher proportion of pupils 41(68.3%) informed the PE teachers anytime they were given broken equipment during PE lessons with majority 12 (100.0%) being from high cost schools. They were followed by those who took the equipment to games teachers at 9(15.0%). The least percentage of 2(3.3%) comprised of those who did not know what to do in case they were given broken equipment. Chi Square value of  $X^2=27.285$  and  $p < 0.001$  revealed that there was significant relationship in what a pupil does when given broken equipment between the types of school.

**Table 4.12: Risk Assessment of Equipment in Private Primary Schools in Nairobi City County (Pupils' Response)**

Variable		Categories of schools			Total 60(100) <i>f</i> (%)	Chi square value
		High cost 12(20) <i>f</i> (%)	Middle cost18(30) <i>f</i> (%)	Low cost 30(50) <i>f</i> (%)		
What do you do as a pupil when given broken equipment	Inform the PE teacher and take it back to him	12(100.0)	16(88.9)	13(43.3)	41(68.3)	<i>P</i> <.001
	Inform the Games teacher and take it back	0(0.0)	0(0.0)	9(30.0)	9(15.0)	
	We fix ourselves and use it	0(0.0)	0(0.0)	8(26.7)	8(13.3)	
	I normally don't know what to do with it	0(0.0)	2(11.1)	0(0.0)	2(3.3)	
<b>Total</b>		<b>12(100)</b>	<b>18(100)</b>	<b>30(100)</b>	<b>60(100)</b>	

**4.7.11: Number of Pupils in a single PE lesson in Private Primary Schools in Nairobi City County (PE teachers' response)**

The study findings as presented in Table 4.13, indicate that PE lessons with 21 to 30 pupils had registered the highest percentage of 52.5%, majority 8(66.7%) being from

middle cost schools, followed by those with less than 20 pupils, at 30% with high cost schools having a higher percentage of 12(100.0%). Chi Square value of  $X^2=26.349$  and  $p<.001$  showed that there was significant relationship in the number of pupils per PE lesson between the types of school.

**Table 4.13: Risk Assessment of Physical Activity in Private Primary Schools in Nairobi City County (PE teachers' response and Researcher's observation)**

Variable		Categories of schools			Total 40(100) <i>f</i> (%)	Chi square value
		High cost 8(20) <i>f</i> (%)	Middle cost12(30) <i>f</i> (%)	Low cost 20(50) <i>f</i> (%)		
Number of children	Less than 20	8(100.0)	3(25.0)	1(5.0)	12(30.0)	$P<.001$
	21-30	0(0.0)	8(66.7)	13(65.0)	21(52.5)	
	31and above	0(0.0)	1(8.3)	6(30.0)	7(17.5)	
<b>Total</b>		<b>8(100.0)</b>	<b>12(100.0)</b>	<b>20(100.0)</b>	<b>40(100.0)</b>	

---

## **CHAPTER FIVE: DISCUSSION**

### **5.1 Discussion of the Findings**

The study investigated the availability, accessibility and use of First Aid kits. It also assessed the availability of safety rules and regulations during PE lessons. In addition, inspection and maintenance schedules of facilities and equipment were also assessed. The study further assessed the availability of emergency plans and risk assessment plans. The type of school and employment of safety precautions was also determined.

### **5.2 Availability, accessibility and utilization of the First Aid Kit**

Results indicated that all 20(100.0%) of private primary schools sampled had First Aid kits. This was an indication that these schools were adhering to the recommendations made by the Ministry of Education (Kenya) that all schools should have First Aid kits. It was also reported by the PE teachers that majority 31(77.5%) of them had knowledge in administering first aid with the highest number 8(100.0%) and 12(100.0%) from high and middle cost schools respectively. This was an indication that they had undergone first aid training. These findings go in line with the safety and security policy made by Nairobi Waldorf school (2013) that the games teacher, together with other teachers are supposed to be trained and qualified in basic first aid by the Kenya Red Cross Society. However, the same findings do not concur with the research carried out by (Ashok et al., 2013) on perception and practices regarding first aid and factors influencing perception and practices among school teachers in Mysore, India. In their research they established that overall perception and practice regarding first aid among school teachers was poor in 119 (45.5%), fair in 97 (37.0%), satisfactory in 44 (16.8%) and good in only 2 (0.8%). Children also confirmed that they had seen their classmates being given first aid. This

showed that the PE teachers in these schools were aware of the duty of care they owed the pupils especially in case of an emergency. These findings concur with the recommendation from Borkowski (n.d.) who notes that regardless of the quality of any PE program, there will always be risks and injuries. A teacher should therefore have the basic knowledge of first aid, how to apply it and know how to quickly access help for serious injuries or medical emergencies.

However, from the researcher's observation, majority 33(55.0%) of the schools had inadequate First Aid kits during PE lessons, impairing proper provision of first aid. In case of an emergency, most children were being sent to the school nurse or secretary for first aid. The study findings are in line with the research carried out by Adebayo and Owoaje (2016) on quality of implementation of the school health program in Oyo state, South-West Nigeria who found out that neither the rural nor the urban public primary schools had trained first aiders, school health assistants or school health nurses. They further explain that even though most (87.8%) of the schools had first aid boxes (rural-100% versus urban-73.9%), 56.5% and 23.1% of the first aid boxes in the urban and rural public schools contained nothing. The findings also concur with those of Kamau (2015) on occupational accidents in primary schools within Nairobi County, Kenya who found out that most schools had no safety committees and few had First Aid boxes and fire extinguishers.

The findings of the study indicated that most (88.7%) pupils in private primary schools knew where the First Aid rooms were located in their schools. Only 31.7% of pupils did not know where the First Aid rooms were located in their schools; majority of them being from low cost schools. This was very good since, in case of an emergency, the pupils

were not stuck as they knew where to get help from. This concurs with the Birmingham City Council (2011) findings which note that it is important to develop pupils' awareness of, and competence in, safe practice principles according to their age and abilities. In the research by Kamau (2015), it is also recommended that there should be mandatory training for all pupils in Kenyan primary schools.

It may be concluded by this study that, most PE teachers as per their response have knowledge in First Aid though their practice is limited due to may be limited first aid kits as per the researcher's own observation, which is putting children at risk in case of an emergency. In addition, it may also be concluded that majority of pupils in private primary schools have been made aware of what to do in case of an emergency, hence promoting their safety during PE lessons.

### **5.3 Availability of Safety Rules and Regulations during PE lessons**

Safety rules are important when conducting PE lessons in schools (Kamenju, Kiganjo and Mwathi 2006). It was reported by the PE teachers that majority (85.0%) of the PE lessons conducted across the three types of private primary schools had safety rules displayed. Podstawski, Danuta and Nowosielska (2015) in their research on problems of safety and risks in PE in Poland, concluded that even though safety rules at PE classes are defined by specific regulations, children's absolute safety is never guaranteed. They further explain that in order to diminish the number of misadventures, the instructor is obliged to not only adhere to the norms, but also teach children safety rules.

It was reported by the pupils that majority 33(55.0%) of them put on PE kits during PE lessons. The researcher also noted that most of the pupils were putting on PE kits during

PE lessons especially from high and middle cost schools. These findings go in line with the recommendation from the Catholic Church Insurance (2015) on safe sport and PE at school which states that pupils should always put on the right attire for physical activity during PE lessons to lower the possibility of injuries and law suits against teachers and schools. Correct clothing allows pupils to move quickly and freely when performing physical activities (International School of Tianjin, n.d). The study findings are however contrary to the research carried out by Migosi, Kadenyi, and Maithya (2016) on influence of teacher related factors on the implementation of PE syllabus in primary schools in Manga Sub County, Kenya. Their findings indicated that only a small proportion (14.3%) of the respondents (Head teachers) were of a strong agreement that teachers and pupils dress appropriately for PE activities. Further analysis revealed that (50%) of the respondents either “disagreed “or “strongly disagreed” that teachers and pupils dress appropriately for PE activities. They concluded that there is lack of sound dress policy during PE activities in 50% of the schools. This study therefore concludes that though PE teachers and pupils reported to have safety rules during PE and it is true that the researcher observed the presence of safety rules and majority of pupils were putting on PE kits, not all rules were being adhered to and not all pupils in all schools were putting on PE kits during PE lessons. This partial implementation of safety rules may still put children under danger in case of an emergency.

As a way of implementing safety precautions, it is advised that all physical activities be supervised (Ministry of Education, 2008). From the findings of the study, it was reported by the PE teachers that majority (100.0%) of the PE lessons in the three types of schools were under the supervision of the teachers. The observation made by the researcher

confirmed that most PE lessons were under the supervision of a teacher. These findings go in line with the recommendation from the Catholic Church Insurance (2015) on safe sport and PE at school which notes that inadequate supervision of students by the teachers is one factor that is capable of dramatically increasing the risk of injury during PE lessons. The study findings are also in agreement with the research carried out by Migosi, Kadenyi, and Maithya (2016) on influence of teacher related factors on the implementation of PE syllabus in primary schools in Manga Sub County, Kenya which indicated that majority (41.3%) of the teachers sometimes supervised pupils during PE activities and 23.7% of the teachers always supervised pupils during PE activities. The results further revealed that 17.4% and 18.1% of the teachers respectively rarely and never supervised pupils during PE play activities.

Results also revealed that though majority (100.0%) of PE lessons were under the supervision of the teachers, the observation made by the researcher indicated that 12(100.0%) of PE teachers from high cost schools offered active supervision followed by 9(31.0%) from middle cost and 8(26.7%) from low cost schools. It is evident that majority 22 (73.3%) of PE lessons from low cost schools had passive supervisors. The recommended supervision comprises of the principles of general and specific supervision which take into consideration the risk level of the activity, the participants' skill level and the participants' maturity (Prince Edward Island Committee, 2010). These findings go in line with those of Mwathi and Kamenyu (2006) who state that a passive observer is not a supervisor, for a supervisor should give proper guidance to the learners during PE lessons. Therefore, this study may conclude that though teachers from middle and low cost schools indicate that all PE classes are supervised and indeed the observer noted

presence of a teacher in the classes, the situation is that there is passive supervision and pupils may still be at danger during the PE lesson in these schools due to negligence.

Birmingham City Council (2011) states that while injuries often occur during the regular course of play, there are certain factors capable of dramatically increasing the risks like not having protective gear, ill-fitting, or outdated protective gear. In this current research, it was observed that 12(100.0%) of PE lessons in high cost schools had the required safety gadgets, middle cost schools had 10(55.6%) while low cost schools had 18(60.0%) of PE lessons with safety gadgets. It is evident that middle cost and low cost schools had the majority of PE lessons without the required safety gadgets. This was not good for pupils were vulnerable to injuries. These findings agree with the recommendation by Fountain (2002) who states that children should always wear sport-specific, properly fitting safety gear when participating in sports activities to prevent injuries. The study findings also contrast with those of Roseburg (n.d.) on playing safe, who found out that after the introduction of face masks for hockey players in Canada in 1971 and soon became mandatory in amateur leagues, eye injuries in hockey have steadily declined since that time. Failure to put on safety gadgets by pupils in middle and low cost schools during PE lessons as per the observation made in this study is an indication that the children' safety is still not guaranteed during PE lessons in these schools.

Warm up and cool down sessions are supposed to be part and parcel of any PE lesson as one way of preventing injuries (Fountain and Goodwin, 2002). Proper warm up sessions have no short cuts since they ensure that pupils are physically ready to participate in physical activities Borkowski (n.d.). It was reported from the observation made by the researcher that majority 9(75.0%) and 12(66.7%) of PE lessons conducted in high and

middle cost schools had warm up sessions that were correct. However, it was observed that majority 45(75.0%) of the PE lessons conducted across the types of school did not have cool down activities. These findings do not concur with the recommendation from Singapore Ministry of Education (2005) that PE class sessions must include appropriate warm-up and cool-down sessions. In their research on comparing the effects of a PE-based stretching program performed during warm-up and cool-down periods on hamstring extensibility in school children aged 9-10 years , Vega, Marban, Garrido and Viciano (2014)found out that both the warm-up and cool-down students had statistically significant higher values on the hamstring extensibility than the no-training students ( $p < 0.05$ ). They concluded that it is possible to develop school children's hamstring extensibility through a PE-based stretching program performed during both warm-up and cool-down. Moreover they state that PE teachers should improve students' flexibility mostly during the cool-down period of the sessions. From the observation made by the researcher, where most PE lessons lacked both proper warm up and cool down sessions, it may therefore be concluded that pupils may still be at danger of getting injuries during PE lessons due to the negligence of the PE teachers on failure to offer both proper warm up and cool down sessions.

#### **5.4 Availability and adherence to Inspection and Maintenance Schedules of Facilities and Equipment**

Written risk assessment for PE should be available in all schools and departments and should be readily available to all who contribute to teaching the program (Bedfordshire Council, 2013). The GoK recommends that facilities and equipment in schools be inspected and maintained regularly (Ministry of Education, 2008). However, it was

established in the research that PE equipment and facilities were mostly 5(41.7%) in middle cost and 10(50.0%) in low cost schools inspected when need arose rather than on regular basis. These findings do not go in line with the views of Prince Edward Island Committee (2010) who recommends that all PE equipment and facilities must be inspected on a regular basis and repaired as necessary. The study findings also agree with those of Macharia (2012) on influence of school playground safety on the participation of preschool children in outdoor activities in Central Division, Naivasha District, Kenya. The research indicated that 83% of pre-schools carry out maintenance inspection on playgrounds and equipment; however, the frequency and types of inspections differed from school to school and category to category with 57% of the pre-school carrying them out on a daily basis, 25% termly, 14% monthly and 4% on an annual basis. The reports from PE teachers revealed that majority PE teachers from high cost 4(50.0%) and middle cost 10(83.3%) schools had written records while 20(100.0%) from low cost schools did not have written records for facilities and equipment. The findings from low cost schools concur with those of Kamau (2015) who found out that most primary schools in Nairobi County did not have clear records of their health and safety activities and occurrences. He therefore recommended that all these schools should have search records. Written records serve as evidence that inspection has been done. St Gregory's Catholic primary school governing body (2016) recommends that all equipment and facilities are supposed to be routinely checked to identify any signs of wear and tear that may cause injury.

It was reported by the PE teachers across the types of school that majority 31(77.5%) of the facilities and equipment were being inspected by them. These findings are in agreement with the recommendation from Bedfordshire council (2013), that it is the

responsibility of the PE teacher to ensure that the work area is safe for a young person's participation by routinely checking it before and during the lesson. Since the issue of safety is the responsibility of pupils as well, it was reported by the pupils across the types of school that majority (68.3%) of them informed the PE teachers anytime they were given broken equipment during PE lessons. This was an indication that pupils were sensitized on the issue of safety of equipment. These findings agree with the recommendations from Prince Edward Island Committee (2010), that students should be encouraged to report equipment problems to the PE teacher. This study may therefore conclude that pupils have been made part and parcel of the safety implementation since they were aware of what to do in case they were given broken equipment. PE facilities and equipment were being inspected as indicated by the PE teachers; however, lack of evidence of written records on inspection, especially from low cost schools, leaves one wondering if surely the inspection was normally done and if it was done, how often. This is a clear indication that the recommended policy on inspection was being selectively adhered to.

### **5.5 Availability and Display of Emergency Plans**

The GoK through the Ministry of Education requires that emergency plans should always be in place and activated should a serious accident or incident occur in schools (Ministry of Education, 2008). From the findings, it was reported by the PE teachers that majority 34(85.0%) of private primary schools had emergency plans in place. Pupils also confirmed that majority 21(52.5%) of them knew where to assemble in case of fire. This was an indication that they were aware of emergency programs in their schools. However, these results do not agree with the findings of Wanjiru (2011) who stated that

45(93.8%) of pre-school teachers in Thika West district indicated that there were no emergency awareness programs in their preschools. The study findings also contrast with those of Kamau (2015) who established that most primary schools in Nairobi County neither had guidelines for preparedness for emergencies or a system for reporting hazards and accidents and the staff were not aware of safety regulations, procedures and laws governing the learning institutions. Majority 38(95.0%) of PE teachers across the types of school stated that they were able to access communication devices in case of an emergency. These results concur with those of Wanjiru (2011) who found out that most preschools in Thika West district had maintained emergency kits, (92.9%), and had telephones that are accessible to members of staff in case of emergencies.

Most 31(77.5%) of the schools had insurance covers though majority 9(45.0%) of PE teachers from low cost schools reported that they were not well versed with the procedures in the event of an emergency. These findings do not go in line with the recommendations from Borkowski (n.d.) who states that being aware of your legal responsibilities as a PE teacher is an excellent way to lower the chance of injury to students and legal problems to your school and to you. Bedfordshire council (2013) also states that it is important that teachers should know and apply the safety procedures for dealing with injuries and other emergencies. This study may therefore conclude that though PE teachers indicated the availability of emergency plans in the schools and even children confirmed that they were aware of what to do in case of an emergency, majority 12(30.0%) of PE teachers across the types of school were not well conversant with the safety procedures, hence putting their lives and those of the children they teach in danger in case of a serious emergency.

## 5.6 Availability of Risk Assessment Plans

It was observed by the researcher that all the 20 private primary schools sampled had open fields. Majority of the schools also had outdoor courts while very few 5(27.8%) from middle cost schools had adequate indoor courts. Majority 7(58.3%) of high cost schools had very adequate indoor courts. Most of these facilities from high cost schools 12(100.0%) were in excellent condition while majority from middle cost schools were in average condition 15(83.3%). These findings do not agree with the observation made by Mungai, Sang and Wamutitu (2014) that the quality of facilities for PE in most countries was below average. In terms of their adequacy, it was found that majority of private primary schools had adequate fields. High cost and middle cost schools were reported to have the highest proportion of adequate fields at, 6(50.0%) and 9(50.0%) respectively. Low cost schools registered a higher proportion of schools without adequate fields 16(53.3%). The findings in low cost schools concur with World Health Organization [WHO] (2007) report that in terms of facilities and equipment, PE is commonly faced with the challenge of inadequate facilities and poor maintenance of teaching sites, though do not concur with the findings in high and middle cost schools. It was also observed that majority of high cost schools had swimming pools that were in excellent condition, 12(100.0%) followed by middle cost schools with swimming pools in good condition at, 15(83.3%). These findings agree with those of Kania (2013) who found out that, 11 pools in Nairobi County scored compliance of range 81% - 100%. These pools were observed to be the five star international hotels and a few international schools in Kenya.

In terms of equipment, it was found that all 20(100.0%) of private primary schools that were sampled had ball games during PE lessons. This was an indication that PE as a

subject was given priority in these schools in terms of equipment. These findings are in line with those of Sirimba (2015) on challenges facing the teaching of PE in primary schools in Bwiri/Nanguba Zone Samia Sub County, Kenya. The research indicated that balls were the major resources used for PE in most schools as reported by majority 150 out of 255 (58.82%) of the pupils. In the current research, 60% of low cost schools had inadequate games balls while 58.7% of high cost schools had adequate games balls. In terms of their condition, high cost schools with games balls that were in excellent condition constituted a higher percentage 12(100.0%). These findings agree with the recommendation from Borkowski (n.d.), that a PE teacher should always check the equipment she or he plans to use to ensure that it is suitable for those that will be using it.

Large PE classes put students at risk of injury as well as reducing learning and teacher feedback (Hennesy, 2005). It was established from the findings that PE lessons with 21 to 30 pupils from middle cost 8(66.7%) and low cost 13(65.0%) schools had the highest percentage. High cost schools had the majority 8(100.0%) of PE lessons with less than 20 pupils. It was observed that boys and girls were given equal chances of taking part in PE. This was an indication that most private primary schools had manageable pupils during PE lessons hence injury reduction to pupils. These findings do not agree with those of Wanyama (2011) who stated that an average Kenyan class has 40-50 students, posing a major challenge for PE teachers. It may therefore be concluded by this study that, though private primary schools carry out risk assessment during PE lessons, there is need for them to use the results from the evaluation to make decisions that ensure that safety standards are not compromised but rather restored and maintained.

### **5.7 Relationship by Type of School**

The main purpose of this study was to establish the status of safety aspects in schools and to check for any relationship between the types of private schools as per their social economic status standing. The following is therefore a summary of the findings according to type of school.

The study found that the type of private primary school as per its economic status influenced how safety practices were employed during PE lessons. Availability of First Aid kits in schools and during PE lessons did not depend on the type of school for all three types of private primary schools had First Aid kits. Chi Square value indicated that there was no significant relationship in availability of First Aid kits during PE lessons between types of school. It was reported by the researcher that though the First Aid kits were available in schools, they were not adequate during PE lessons. Most pupils were being sent to the school nurse or secretary for first aid. Very few schools from high cost 6(50.0%) had adequate First Aid kits while most 9(50.0%) middle cost schools had slightly adequate First Aid kits during PE lessons.

It was also established that PE teachers in private primary schools had knowledge in administering first aid though majority of them were from high cost 8(100.0%) and middle cost schools 12(100.0%). Majority of pupils who confirmed to have ever seen their classmates being given first aid were from high cost schools 8(66.7%). Chi Square value indicated that there was significant relationship in PE teachers having knowledge in administering first aid between types of schools. This disparity might have been brought about by how the issue of safety is perceived and prioritized in these schools for having

many PE teachers with knowledge in first aid and how to apply it requires training and practice.

About 85% of private primary schools that were sampled had safety rules and regulations displayed during PE lessons though adherence to these rules and regulations depended on the type of school. Chi Square value indicated that there was significant relationship in adherence to rules and regulations between types of school. Majority of PE teachers who observed safety rules and regulations like offering correct warm up during PE lessons were from high cost 9(75.0%) schools. It was observed that most teachers in low cost 16(53.3%) schools did not have warm up sessions. In the activities that required safety gadgets, it was observed that pupils in high cost schools 12(100.0%) had safety gadgets put on followed by those from middle cost 8(44.4%) while very few or none in low cost schools had safety gadgets. These differences might have been due to financial implications involved in purchasing the safety equipment, how the issue of safety is prioritized and how the pupils have been sensitized and shown the importance of employing safety precautions when taking part in most risk activities during PE lessons.

In terms of emergency plans, majority 31(77.5%) of schools had insurance covers though not all PE teachers were fully conversant with the procedures. Though the Chi Square value indicated that there was significant relationship in the insurance covers between types of school, the issue of PE teachers not being very conversant with the procedures applied to all PE teachers in the three types of schools. This might have been that PE teachers had the knowledge which they were not using or they were not well prepared in case of a serious injury. There is therefore need for them to put into practice the knowledge that they have. These findings are not in line with the recommendation from

St Gregory's catholic primary school governing body (2016) which notes that it is important for all school staff to be acquainted with the procedure to follow in the event of an accident or incident or emergency situation.

Majority of pupils knew where to assemble in case of fire. Majority of pupils from low cost schools 15(75.0%) were asked to assemble on the playing field in case of an emergency while those from high cost and middle cost had designated fire assembly points. The government's recommendation is that all schools should have well marked places to assemble in case of fire or emergency. It is therefore important for all schools to adhere to this directive fully for schools have a duty to provide a safe working environment and safe systems of work for staff and pupils, as well as a responsibility to ensure all pupils are educated on safe practice

It was observed by the researcher that majority of private primary schools had PE facilities and equipment though the adequacy and condition depended on the type of school with high cost and middle cost schools scoring high in this area. Chi Square value confirmed that there was significant relationship in the adequacy and condition of PE facilities and equipment between types of school. This might have been caused by the way PE as a subject is prioritized and how the issue of safety is perceived by the school management.

It was reported by the PE teachers that majority 26(65.0%) of them did not have written records for facilities and equipment. Though the Chi Square value indicated that there was significant relationship in having written records between the types of school, it was evident that PE teachers in the three types of schools were not taking this issue seriously.

Inspection of facilities and equipment did not depend on the type of school for most facilities and equipment was being inspected during the PE teacher's free time. Since facilities and equipment have inherent risks, they should be checked on regular basis, preferably on daily basis to safeguard the users. Chi Square value revealed that there was no significant relationship in the inspection of facilities and equipment between types of school. These findings do not concur with the recommendation from Association of PE hand book, 2012 which states that it is important for schools to ensure that safety standards of PE equipment and facilities are not comprised. It was also reported by the pupils that 41(68.3%) of them reported to the PE teachers anytime they were given broken equipment, followed by those who reported to games teachers. Though the Chi Square value revealed that there was significant relationship in a pupil reporting in case he or she is given broken equipment between the types of school, it was evident that majority of pupils in private primary schools had been sensitized about risks associated with the use of equipment.

Majority of private primary schools had manageable number of pupils during PE lessons. All high cost schools had less than 20 pupils per PE lesson making supervision of the pupils very easy, compared to low cost schools that had 20 to 30 pupils per lesson making supervision a bit challenging. This study may therefore conclude that there is significant relationship in the implementation of safety precaution practices in the three types of schools (high, middle and low cost) during PE lessons.

## **CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **6.1 Summary of the Findings**

The purpose of the study was to assess safety precautions employed during PE lessons in private primary schools within Nairobi City County, Kenya. It also assessed the availability of safety rules and regulations during PE lessons, in addition to inspection and maintenance schedules of facilities and equipment. The study further assessed the availability of emergency plans and risk assessment plans during PE lessons. The type of school and employment of safety precautions was also determined.

The study was based on the following null hypothesis

**H<sub>01</sub>** - There was no significant relationship between the type of school and employment of safety precautions in private primary schools in Nairobi City County, Kenya.

The study found out that First Aid kits were available, though they were not adequate in all private primary schools in Nairobi City County. Majority of PE teachers had knowledge in administering first aid with the highest number from high cost schools. It was established that majority of pupils in private primary schools knew whom to approach and where to go in case of an emergency. Majority of the PE lessons conducted had safety rules displayed though not all rules were being followed. Adherence to safety rules and regulations depended most on the type of private primary school in Nairobi City County.

Inspection of facilities and equipment did not depend on the type of school, for majority of facilities and equipment was inspected by the PE teachers. It was discovered that majority of private primary schools had PE facilities and equipment though the adequacy

and condition depended on the type of school. The type of school influenced the availability of emergency plans. Majority of PE teachers were not fully conversant with the insurance procedures in case of an emergency. The researcher found out that majority of private primary schools in Nairobi City County had manageable number of pupils during PE lessons. Based on the findings above, the stated null hypothesis was rejected and therefore the researcher concludes that there is significant relationship between the type of school and employment of safety precaution practices during PE lessons in private primary schools in Nairobi City County, Kenya.

## **6.2 Conclusions**

Based on the findings, the following conclusions were made:

- (i) All private primary schools in Nairobi City County had First Aid kits though the knowledge by the PE teachers in administration of first aid, and the adequacy of the First Aid kits depended on the type of school.
- (ii) The type of private primary school in Nairobi City County determined the adherence to safety rules by both pupils and PE teachers.
- (iii) Not all private primary schools in Nairobi City County had proper emergency awareness programs for PE lessons.
- (iv) All private primary schools in Nairobi City County had PE facilities and equipment, though the adequacy and condition depended on the type of school with majority of high cost schools having well maintained facilities and equipment followed by middle cost schools.

- (v) Majority of private primary schools in Nairobi City County had manageable number of pupils during PE lessons with high cost schools offering the required supervision.
- (vi) There is selective implementation of the recommended safety precautions in private primary schools in Nairobi City County, Kenya.

### **6.3 Recommendations for practice and policy**

Arising from the findings of this study, the following are recommended for policy formulation and implementation:

- (i) For full implementation of safety precautions during PE lessons in private primary schools, all stakeholders, especially the PE teachers, have to play their roles effectively.
- (ii) The government should be more aggressive in sensitizing the schools on the need to put, and implement recommended safety precautions during PE programs.
- (iii) Since majority of private primary schools are taking PE more seriously, school managements should prioritize the issue of safety during PE lessons by channeling finances towards its implementation.
- (iv) School administrations should ensure that PE teachers are regularly trained in first aid and at the same time undertake refresher courses on regular basis.
- (v) The Ministry of Education should come up with a more refined policy on regular monitoring and evaluation of implementation of the recommended safety precautions.

#### **6.4 Recommendations for Further Research**

It is recommended that further research be carried out to:

- (i) Carry out a comparative study between private and public primary schools on the implementation of safety precaution practices during PE lessons in Nairobi City County, Kenya.
- (ii) Asses the implementation of the recommended safety precaution practices in co-curricular activities in both private and public primary schools in Nairobi City County.
- (iii) Find out the role of the school community on the issue of safety of the children at school during physical activities.
- (iv) Asses the implementation of the recommended safety precaution practices during PE programs in private secondary schools and teacher training colleges countrywide.

## REFERENCES

- A Foresters Company. (2013). *Importance of physical education in primary schools*. Retrieved August 5, 2013 from <http://www.first4families.co.uk/education/the-importance-of-PE-in-primary-schools/>.
- Aberthey, L., & MacAuley, D. (2017). *Journal on impacts of school sports injury*, 37(4). Retrieved February 19, 2018 from <http://bjsm.bmj.com/content/37/4/354>.
- Adebayo, A. M., & Owoaje, E.T. (2016). Quality of implementation of the school health program in Oyo state, south west Nigeria: Rural –urban comparative survey: Ibadan, Nigeria. *American journal of educational research*, 4(4), 307-313.doi: 10.12691/education-4-4-3. Retrieved February 9, 2017 from <http://pubs.sciepub.com/education/4/4/3>.
- Alberta Center for Injury control and Research. (2008). *Safety guidelines*. Canada: University of Alberta.
- Alexander, K., Stafford, A., & Lewis, R. (2011). *The experiences of children participating in organized sport in the UK*. London: University of Edinburg.
- Association for physical education hand book. (2012). *Safe practice in physical education and school sports*. Retrieved December 1, 2016 from [www.afpe.org.uk/physical-education/wp-content/uploads/changing-provision-2012-1.pdf](http://www.afpe.org.uk/physical-education/wp-content/uploads/changing-provision-2012-1.pdf).
- Bahr, R., & Krosshaug, T. (2005). *Clinical guide to sports injuries*. Champaign: IL Human kinetics publishers.
- Barb, F. (2005). *Parent action for healthy kids*. Retrieved April 4, 2015 from [www.parentactionforhealthykids.org/resources/physical-education-vs-physical-activity/](http://www.parentactionforhealthykids.org/resources/physical-education-vs-physical-activity/).
- Birmingham City Council. (2011). *Policy and procedures for physical education and school sport*. Retrieved November 18, 2016 from [web.newhall.bham.sch.uk/uploads/4/0/6/2/4066273/pe-policy-2011.pdf](http://web.newhall.bham.sch.uk/uploads/4/0/6/2/4066273/pe-policy-2011.pdf).
- Bevans KB., Fitzpatrick L-A., Sanchez BM., Riley A., & Forrest C. (2011). *Physical education resources, class management, and student physical activity levels: A structure-process-outcome approach to evaluating physical education effectiveness*. Philadelphia.
- Blair, R., & Capel, S. (2008). Intended or unintended? Issues arising from the implementation of the UK Government's 2003 schools workforce remodeling act. *Journal of perspectives in education*, 26(2), 105-121.Retrieved December 8, 2016 from PE and education level-pdf-Adobe Acrobat Reader Dc.
- Borkowski, R. P. (Ed.). (n.d.). *A risk management primer for physical education teachers*. Retrieved August 16, 2016 from <http://web3.esd112.org/docs/programs/putting-prevention-into-practice.pdf?sfvrs>.

- Catholic Church Insurance. (2015). *Safe sport and physical education at school*. Retrieved August 16, 2018 from [www.risksupport.org.au](http://www.risksupport.org.au).
- Central Bedfordshire Council. (2013). *Safe practices in physical education*. Shefford: Bedfordshire.
- Fitzroy legal Services. (2015). *The law handbook*. Retrieved July 20, 2015 from [www.lawhandbook.org.au/handbook/cho6so3so2.php](http://www.lawhandbook.org.au/handbook/cho6so3so2.php).
- Fountain, S. (2002). *PE to 16 (2<sup>nd</sup>ed.)*. New York: Oxford University Press.
- Fountain, S., & Goodwin, L. (2002). *PE to 16 (2<sup>nd</sup>ed.)*. New York: Oxford University Press.
- Gallaber, R., Fountain, S., & Gee, L. (2000). *Physical education through diagrams*. New York: Oxford University press.
- Gathu, A., Ndung'u, B., & Bomett, E. (2015). *Challenges faced by principles in implementing physical education in public secondary schools in Githunguri District*, 5(6), 2225-2484.
- Gibendi, R. (2017). *Kamusinga high school fraternity is in mourning after one of its top swimmers drowned in the school swimming pool*. Retrieved February 19, 2018 from <https://www.tuko.co.ke/101713-kamusinga-high-school-top-national-schools-student-drowns-in-school-swimming-pool.html#101713>.
- Globe Media Ltd. (2014). *Expats arrivals, education and schools in Kenya*. Retrieved July 24, 2014 from [www.expatarrivals.com/kenya/education-and-schools-in-kenya](http://www.expatarrivals.com/kenya/education-and-schools-in-kenya).
- Grace, S. (2015). *Role of physical education in promoting learner academic performance: A case study of Kombanya primary school of Mansa district. Zambia: Luapala province*.
- Greenfield, M., Almond, G., & Clarke, E. (2015). Factors affecting school physical education provision in England: A cross-sectional analysis. *Journal of public health*, 38(2). 316–322. Retrieved March 19, 2018 from <https://doi.org/10.1093/pubmed/fdv032>.
- Hennesy, B. (2005). Supervising classes is not healthy. *Journal of Californian association for health, physical recreation and dance*, 67(4), 8-11.
- Hertfordshire. (2008). *Safety in physical education and school sports*. Retrieved February 27, 2018 from [www.thegrid.org.uk/info/health\\_and\\_safety/documents../physicaleducation\\_v2.doc](http://www.thegrid.org.uk/info/health_and_safety/documents../physicaleducation_v2.doc).
- Hind, E., & Palmer, C. (2007). A critical evaluation of the roles and responsibilities of the physical education teacher – perspectives of a student training to teach

physical education in primary schools. *Journal of qualitative research in sports studies*, 1(1), 1-9. Liverpool: Hope University.

Hong Kong Education Bureau. (2011). *Education learning area for Hong Kong schools*. Retrieved October 25, 2014 from <http://www.edb.gov.hk/attachment/sch-admin/admin/about-activities/sch-activities-guidelines>.

International School of Tianjin. (n.d.). *Working, learning and acting together*. Retrieved April 3, 2018 from [https://www.istianjin.org/uploaded/our-programs/IST\\_Elementary\\_School\\_PE\\_Uniform\\_-English.pdf](https://www.istianjin.org/uploaded/our-programs/IST_Elementary_School_PE_Uniform_-English.pdf).

Kamau, S. M. (2015). *Occupational accidents in primary schools within Nairobi County, Kenya: Awareness and prevention* (Research project). Nairobi: Kenyatta University. Retrieved February 9, 2017 from [www.slideshare.net/steveMbugua/first-aid-research-project-64900720](http://www.slideshare.net/steveMbugua/first-aid-research-project-64900720).

Kamenju, J., Kiganjo, G., & Mwathi, L. (2004). *Physical education: Form three teachers guide*. Nairobi: Jomo Kenyatta Foundation.

Kania, J. (2013). *Health and safety standards of swimming pool facilities in Nairobi, Nakuru and Kiambu Counties of Kenya*. Retrieved August 18, 2014 from [pool-safety3-3-112-Health-and-safety-standards-swimming-pools-kenya-job-kania.pdf](http://www.pool-safety3-3-112-Health-and-safety-standards-swimming-pools-kenya-job-kania.pdf).

Kenya –Advisor. (2014). *Education in Kenya: An introduction*. Retrieved July 28, 2015 from <http://www.kenya-advisor.com/education-in-kenya.htm/>.

Kenyan Children’s Act. (2001). *Children’s Act 8*. Retrieved May 21, 2015 from [http://www.chr.up.ac.za/undp/domestic/docs/legislation\\_03.pdf](http://www.chr.up.ac.za/undp/domestic/docs/legislation_03.pdf).

Kiganjo, G., Kamenju, J., & Mwathi, L. (2003). *Physical education: Form two teachers guide*. Nairobi: Jomo Kenyatta Foundation.

Kimenyi, M. (2015). *The bad economics of free primary education*. Retrieved July 27, 2015 from <http://www.Brookings.edu/research/opinion/2013/09/07-kenya-economics-primary-education-kimenyi>.

Kinuthia, V. (2018). *Murang’a student dies during school competition; Body remains unnoticed for 5 hours*. Retrieved February 19, 2018 from <https://citizentv.co.ke/news/muranga-student-dies-during-school-swimming-competition-body-unnoticed-for-5-hours-191238/>.

Kipng’etich, K., Langat, A., & Williter, R. (2014). Assessment of essential physical education equipment and facilities in teacher training colleges in Kenya. *Journal of education*, 4(3), 67-73. Retrieved July 29, 2015 from <http://journal.sapurb.org/edu>.

Kirkpatrick, L. (2015). (14<sup>th</sup>ed.). *A simple guide to IBM SPSS statistics version 23*. Retrieved September 23, 2015 from <http://www.cengage.com/search/product>

Overview.do?Ntt=statistics%7C1905263947135907683015745857991290086973  
&N=16&Ntk=APG%7CP\_EPI&Ntx=mode+matchallpartial.

- Legal issues. (n.d.). *Legal issues associated with teaching physical education*. Retrieved August 13, 2015 from <http://www.longwood.edu/staff/colvinay/kins382/legal-issues.ppt>.
- Macharia, K. (2012). *Influence of school playground safety on the participation of preschool children in outdoor activities in Central division, Naivasha district* (Master's thesis). Nairobi: University of Nairobi.
- McGuire, K. (2015). *Minnesota schools review pool policies after St. Louis Park boy's drowning*. Retrieved July 28, 2015 from [www.startribune.com/schools-review-poolpolicies-after-st-louis-park-boy-s-drowning/248471421/](http://www.startribune.com/schools-review-poolpolicies-after-st-louis-park-boy-s-drowning/248471421/).
- Michigan. (2005). *Action for healthy Kids*. Retrieved October 27, 2014 from <http://www.michigan.gov/documents/mde/Tipsar>.
- Migosi, Z., Kadenyi, M., & Maithya, P. (2016). Influence of teacher related factors on the implementation of physical education syllabus in public primary schools in Manga sub county, Kenya. *International journal of education and research*, 4(9).
- Ministry of Education Culture and Human Resources. (2009). *School management manual for Rectors of state secondary of schools: Policies and guidelines on school management issues*. Retrieved April 7, 2017 from <http://ministry-education.govmu.org/English/Documents/Publications/School%20Management%20Manual.pdf>.
- Ministry of Education Science and Technology. (2014). *Registered schools in Nairobi province*. Nairobi: Department of statistics.
- Ministry of Education. (2008). *Safety standards Manual for schools in Kenya*. Nairobi: Church World Services.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches*. Nairobi: ACT.
- Mungai, S., Sang, A., & Wamutitu, J. (2014). Teachers' perception on the influence of facilities and equipment on the implementation of PE curriculum in Nyandarua County, Kenya. *Online Journal of social sciences*, 3(8), 194-200. Retrieved August 13, 2015 from <http://www.onlineresearchjournals.org/Jss>.
- Mutai, B. (2000). *How to write quality research proposal: A complete and simplified recipe*. Edinburgh: Thelley publications.
- Mwathi, L., & Kamenju, J. (2003). *Primary teacher education: Physical education*. Nairobi: Jomo Kenyatta Foundation.

- Mwathi, L., & Kamenju, J. (2006). *Primary teacher education: Physical education*. Nairobi: Jomo Kenyatta Foundation.
- Nairobi Waldorf School. (2013). *Safety and security policy*. Retrieved July 20, 2015 from [www.nairobiwaldorfschool.ac.ke/our-school/our-school-policies/](http://www.nairobiwaldorfschool.ac.ke/our-school/our-school-policies/).
- National Center for Sports Safety. (2012). *Sports injury facts*. Retrieved August 6, 2013 from [www.sportssafety.org](http://www.sportssafety.org).
- National Crime Prevention Council. (2015). *School safety*. Retrieved September 10, 2015 from <http://www.ncpc.org/topics/by-audience/parents/school-safety>.
- Nationwide children's. (2009). *When your child needs a hospital everything matters*. Retrieved August 5, 2013 from children's <http://www.nationwidechildrens.org/newsroom-articles/new-national-study-finds-increase-in-pe-class-related-injuries?contentid=49229>.
- Nelson, N., Alhajj, M., Yard, E., Comstock, D., & McKenzie, L. (2009). Injuries. *Journal of pediatrics*, 124(3), 918-925. Retrieved February 21, 2015 from [pediatrics.aapublications.org/content/124/3/918.abstract](http://pediatrics.aapublications.org/content/124/3/918.abstract).
- Njenga, A., & Kabiru, M. (2009). *Research, monitoring and evaluation*. Nairobi: Focus Publishers Ltd.
- Olsen, C., & Marie, D. (2004). *Cross sectional study design and data analysis*. Chicago, Illinois: Walden University
- Onsomu, E., Mungai, J., Oulai, D., Sankale, J., & Mujidi, J. (2004). *Community schools in Kenya: Case study on community participation in funding and managing schools*. Paris, France: International Institute for educational planning.
- Paton, N. R., Giraldez, A.V., & Camino, B. (2015). *Descriptive research about first aid teaching by physical education teachers in primary schools*. Spain: University of Coruna.
- Podstawski, R., Zwolińska, D., & Nowosielska, S.D. (2015). Problems of safety and risk in physical education. *Pedagogics, psychology, medical-biological problems of physical training and sports*, (10), 82-89. Retrieved March 29, 2018 from <http://dx.doi.org/10.15561/18189172.2015.1013>.
- Prince Edward Island Committee. (2010). *Curricular safety guidelines: K-12*. Canada: Prince Edward Island.
- Rodrigues, H. G., & Rodrigues, E. F. (2016). First aid in school physical education. *Multi-disciplinary core scientific journal of knowledge*, 9(1), 215-234. Retrieved

- February 19, 2018 from <https://www.nucleodoconhecimento.com.br/education/first-aid-in-school-physical-education>.
- Romiley primary. (2016). *Safety guidelines in physical education*. Retrieved March 29, 2018 from [romileyprimary.com/cms/wp-content/uploads/safe](http://romileyprimary.com/cms/wp-content/uploads/safe).
- Rosenburg, J. G. K. (n.d.). *Play safe: Physical literacy and injury prevention guide for leaders*. Canada: Health sciences Centre.
- Rumsey, D. (2015). (2<sup>nd</sup>ed.). *How to find the sampling distribution of a sample size*. Retrieved May 18, 2015 from <http://www.dummies.com/how-to/content/how-to-find-the-sampling-distribution-of-a-si>.
- Shetty Memorial Institute of Dental Sciences. (2014). Emergency management of dental trauma among physical education teachers of 2 districts in Karnataka, India. *Asian Journal of sports medicine*, 5(2), 139-140. India: Nitte University, Mangalore, Karnataka.
- Shropshire Council. (2016). *Regulations and guidelines for safe practice in PE and sport*. Retrieved March 29, 2018 from [Shropsm/attachments/download.asp?file=598&type=pdfhirecoincil](http://Shropsm/attachments/download.asp?file=598&type=pdfhirecoincil) On 4/4/2018.
- Singapore Ministry of education. (2005). *Physical education syllabus (primary, secondary, pre- university levels)*. Singapore.
- Sirimba, L. E. (2015). *Challenges facing the teaching and learning of physical education in primary schools in Bwiri/Nanguba Zone, Samia sub county, Kenya* (Research project). Nairobi: Kenyatta University.
- St Gregory's Catholic primary school governing body. (2016). *Policy and procedures for safe practice in physical education and school sport*. Retrieved December 1, 2016 from [policy-pest Gregory.pdf](http://policy-pest Gregory.pdf)-Adobe Acrobat Reader DC.
- Sunil, K. D., Kulkarni, P., Srinivas, N., Prakash, B., Hugara, S., & Ashok, NC. (2013). *Perception and practices regarding first aid among school teachers in Mysore, Natl community Med*, 4(2), 349-352. Retrieved February 9, 2017 from [njcmindia.org/uploads/4-2-349-352.pdf](http://njcmindia.org/uploads/4-2-349-352.pdf).
- Tooley, J., & Dixon, P. (2005). *Private education is good for the poor: A study of private schools serving the poor in the low income countries*. Washington, D.C: CATO Institute.
- United States Consumer Product Safety Commission. (2010). *Public playground safety handbook*. Retrieved September 23, 2015 from <http://www.cpsc.gov/PageFiles/122149/325.pdf>.
- United States department of health and human Sciences. (2012). *Understanding childhood injuries*. Retrieved December 23, 2013 from [eclkc.ohs.acf.hhs.gov/hhs](http://eclkc.ohs.acf.hhs.gov/hhs)

/c/tta-system/health/Health/EnvironmentalHealth and safety/Environmental Health and safety pro.

- Vega, D. M., Marban, R. M., Garrido, J., & Viciano, J. (2014). Comparison between warm up and cool down stretching programs on hamstring extensibility gains in primary school children. *Journal of physical activity review*, 2, 16-24. Retrieved February 9, 2017 from <http://psjd.icm.edu.pl/psjd/element/bwmeta1.element.psjd-74cf33a6-ed88-4481-8f8c-a48c425b22fa>.
- Wanjiru, G. (2011). *An investigation into emergency management preparedness of children's physical safety in preschools in Thika West district, Kenya* (Masters Project) Nairobi: University of Nairobi.
- Wanyama, M. N. (2011). *The challenges of teaching physical education: Juxtaposing the experiences of physical education teachers in Kenya and Victoria* (Master's thesis). Melbourne graduate school of education: The University of Melbourne.
- Wanyama, M. N., & Quay, J. (2014). The challenges of teaching physical education: Juxtaposing the experiences of physical education teachers in Kenya and Victoria (AJPHERD)(Australia). *African Journal for physical, health education, recreation and dance*, 20(2), 745-754.
- Women Education Researchers of Kenya. (2011). *Safety in primary schools*. Retrieved August 18, 2014 from [waweza.org/go/uwezo-kenya-to-launch-2011-national-assesment-report-july-19](http://waweza.org/go/uwezo-kenya-to-launch-2011-national-assesment-report-july-19).
- World Health Organization. (2007). *An update on the status of physical education in schools worldwide: Technical report for WHO*. Geneva: World Health Organization.
- Zakaria, J., Harun, M., Salamuddin, N., & Taff, M. (2016). Risk management practices towards developments of sport and recreational activities in Malaysia. *Open access library journal*, (3), 1-11. doi: 10.4236/oalib.1102681. Retrieved March 29, 2018 from <http://www.scirp.org/journal/PaperInformation.aspx?paperID=69510>

## APPENDICES

## Appendix A: Graduate school Research authorization letter



KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [kubps@yahoo.com](mailto:kubps@yahoo.com)  
[dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)  
 Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P.O. Box 43844, 00100  
 NAIROBI, KENYA  
 Tel. 810901 Ext. 57530

---

Internal Memo

---

**FROM:** Dean, Graduate School **DATE:** 19<sup>th</sup> February, 2016  
**TO:** Ms. Stella N. Wayong'o **REF:** H108/CE/22619/10  
 C/o Recreation Mngt. & Exer. Science Dept.  
 Kenyatta University

---

**SUBJECT: APPROVAL OF RESEARCH PROPOSAL**

---

We acknowledge the receipt of your revised Research Proposal entitled "Safety Precautions during Physical Education Program in Private Primary Schools in Nairobi City County, Kenya" as per recommendations raised by the Graduate School Board of 27<sup>th</sup> January, 2016.

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision Tracking Forms per semester. The form has been developed to replace the progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you.

  
 ANNBELL MWANIKI  
 FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Recreation Management & Exercise Science Department

Supervisors:

1. Dr. Mwangi F. Mundia  
 C/o Recreation Mngt. & Exercise Sci. Dept.  
 KENYATTA UNIVERSITY
2. Dr. Lucy J. Wachira  
 C/o Physical & Health Education Dept.  
 KENYATTA UNIVERSITY

AM/cao

## Appendix B: Approval letter from Kenyatta University ethics board



### KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575  
 Email: [kuerc.chairman@ku.ac.ke](mailto:kuerc.chairman@ku.ac.ke)  
[kuerc.secretary@ku.ac.ke](mailto:kuerc.secretary@ku.ac.ke)  
 Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P. O. Box 43844,  
 Nairobi, 00100  
 Tel: 8710901/12

Our Ref: **KU/ERC/APPROVAL/VOL.1 (36)**

Date: 13<sup>th</sup> April 2017

Stella Nasimiyu Wayong'o  
**Kenyatta University,**  
**P.O Box 43844,**  
**Nairobi**

Dear Stella,

**APPLICATION NUMBER, PKU/553/I644, TITLE “SAFETY PRECAUTIONS DURING PHYSICAL EDUCATION PROGRAM IN PRIVATE PRIMARY SCHOOLS IN NAIROBI CITY COUNTY, KENYA**

#### **1. IDENTIFICATION OF PROTOCOL**

The application before the committee is with a research topic application Number, **PKU/553/I644: TITLE “Safety precautions during physical education program in private primary schools in Nairobi City County, Kenya,”** Received on 3<sup>rd</sup> March 2017 and Approved on 7<sup>th</sup> April 2017

#### **2. APPLICANT**

Stella Nasimiyu Wayong'o

#### **3. SITE**

Nairobi County

#### **4. DECISION**

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (Section 7.2.1.3) and the Kenyatta University Review Committee Guidelines **AND APPROVED** that the research may proceed for a period of **ONE** year from 13<sup>th</sup> April, 2017.

**ADVICE/CONDITIONS**

- i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.
- ii. Serious and unexpected adverse events related to the conduct of the study are reported to this committee immediately they occur.
- iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.
- iv. Submit an electronic copy of the protocol to KUERC.

When replying, kindly quote the application number above.  
 If you accept the decision reached and advice and conditions given please sign in the space  
 Provided below and return to KU-ERC a copy of the letter.

*[Handwritten signature]*




**DR. TITUS KAHIGA.**  
**CHAIRMAN ETHICS REVIEW COMMITTEE**

I Stella Nasimiyu..... accept the advice given and will fulfill the conditions  
 therein.

Signature..... [Handwritten Signature] Dated this day of... 13<sup>th</sup> APRIL.....2017.

cc.  
 DVC: Research Innovation and Outreach

**Appendix C: Permit from Ministry of Education: National Commission for Science,  
Technology and Innovation (NACOSTI)**

  
**NATIONAL COMMISSION FOR SCIENCE,  
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,  
 2241349, 310571, 2219420  
 Fax: +254-20-318245, 318249  
 Email: secretary@nacosti.go.ke  
 Website: www.nacosti.go.ke  
 When replying please quote

P.O. Box 50623-00100  
 Ujuzi Highway  
 NAIROBI-KENYA

Ref. No: **NACOSTI/P/16/86818/10568**

Date: **15<sup>th</sup> April, 2016**


Stella Nasimiyu Wayong'o  
 Kenyatta University  
 P.O. Box 43844-00100  
**NAIROBI.**

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on "*Safety precautions during physical education program in private primary schools in Nairobi City County, Kenya,*" I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **13<sup>th</sup> April, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

  
**DR. STEPHEN K. KIBIRU, PhD.**  
**FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner  
 Nairobi County.

The County Director of Education  
 Nairobi County.

*National Commission for Science, Technology and Innovation is ISO: 9001: 2008 Certified*

**Appendix D: Introductory letter to schools seeking permission to conduct Research**

The Head teacher/Principal,

.....

Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH IN YOUR SCHOOL**

My name is Stella Nasimiyu Wayong'o- a student pursuing a Master of Science Degree in the department of Recreation Management and Exercise at Kenyatta University. I am conducting a study on “ Physical education safety precaution practices in private primary schools in Nairobi City County, Kenya” The information may help school administrators to facilitate the implementation of safety precautions in PE lessons in schools.

**Procedure to be followed**

Participation in the study will involve pupils and physical education teachers. Data collection will involve pupils of standard five/grade five, standard six/grade six and those of standard seven/grade seven which will be done once. Pupils will be required to be interviewed and physical education teachers will be requested to respond to the questions in the questionnaires. Duration for interviewing pupils will be 10 minutes and answering the questionnaires by teachers will be 15 minutes. The researcher will be required to do her own observation around the compound and during PE lessons as well. Please remember the participation in this study is voluntary. You may ask questions related to the study at any time. The PE teachers and pupils may refuse to respond to any questions and may stop responding to questions in the questionnaires and in the interview

schedules at any time. They may also stop being in the study at any time without any consequences.

### **Discomforts and risks**

There are no measurable potential risks or discomforts involved in this survey other than anxiety caused by the survey questions. If this happens, the PE teachers and pupils may refuse to answer the questions if they so choose.

### **Benefits**

The study may help school administrators to facilitate the implementation of safety precautions during PE programs.

### **Reward**

If they agree to participate in this study, they will be appreciated by being bought lunch.

### **Confidentiality**

The information provided will be held with utmost care and strict confidentiality and is only meant to be used for the purpose of this research. The questionnaires and interview schedules will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private. Your cooperation is highly appreciated. Thank you in advance.

### **Voluntary participation**

Their participation is voluntary. Their refusal to participate or withdrawal from participation at any stage will attract no penalty or any loss. If you have any questions you may contact Dr. Mwangi Francis Mundia on 0722761379 or Dr. Lucy Joy Wachira on 0723842543 or the Kenyatta University Ethical Review Committee Secretariat: chairman.kuerc@ku.ac.ke;secretary.kuerc@ku.ac.ke;secretariat.kuerc@ku.ac.kemailto:ercku2008@gmail.com

**Participant’s statement**

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time without any penalty.

Name of the participant.....  
.....

Signature or Thumbprint Date

Please put a tick in either of the boxes below as per your decision.

I.....Agree  do not agree

for this study to be carried in this school.

Head teacher/Principal Signature.....Date.....

Researcher’s Signature.....Date.....

**Appendix E: Consent Form for Physical Education Teachers**

Dear Sir/Madam,

**RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY**

My name is Stella Nasimiyu Wayong'o- a student pursuing a Master of Science Degree in the department of Recreation Management and Exercise at Kenyatta University. I am conducting a study on “ Physical education safety precaution practices in private primary schools in Nairobi City County, Kenya” The information may help school administrators to facilitate the implementation of safety precautions in PE programs in schools.

**Procedure to be followed**

Participation in this study will require that you kindly respond to the questions in the questionnaire which will take 15 minutes. Please remember that participation in this study is voluntary. You have the right to refuse participating in this study. You may ask questions related to the study at any time. You may refuse to respond to any questions and may stop responding to questions in the questionnaire at any time. You may also stop being in the study at any time without any consequences.

**Discomforts and risks**

There are no measurable potential risks or discomforts involved in this survey other than anxiety caused by the survey questions. If this happens, you may refuse to answer the questions if you so choose.

**Benefits**

The study may help school administrators to facilitate the implementation of safety precautions during PE programs. It may also remind you of the crucial role that you play as a PE teacher in the implementation of safety precautions during PE lessons.

**Reward**

If you agree to participate in this study, you will be appreciated by being bought lunch.

**Confidentiality**

The information provided will be held with utmost care and strict confidentiality and is only meant to be used for the purpose of this research. The questionnaires will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private. Your cooperation is highly appreciated. Thank you in advance.

**Voluntary participation**

Your participation is voluntary. Your refusal to participate or withdrawal from participation at any stage will attract no penalty or any loss. If you have any questions you may contact Dr. Mwangi Francis Mundia on 0722761379 or Dr. Lucy Joy Wachira on 0723842543 or the Kenyatta University Ethical Review Committee Secretariat on: chairman.kuerc@ku.ac.ke,secretary.kuerc@ku.ac.ke,secretariat.kuerc@ku.ac.kemail to:ercku2008@gmail.com

**Participant’s statement**

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time without any penalty.

Name of the participant.....

.....

Signature or Thumbprint

.....

Date

Please put a tick in either of the boxes below as per your decision.

I.....Agree  do not agree

to take part in this research.

Teacher's Signature.....Date.....

Researcher's Signature.....Date.....

**Appendix F: Consent Form for Parent /Guardian**

Dear Parent/Guardian,

**RE: PERMISSION TO PARTICIPATE IN A RESEARCH STUDY**

My name is Stella Nasimiyu Wayong'o- a student pursuing a Master of Science Degree in the department of Recreation Management and Exercise at Kenyatta University. I am conducting a study on “ Physical education safety precaution practices in private primary schools in Nairobi City County, Kenya” The information may help school administrators to facilitate the implementation of safety precautions in PE lessons in schools.

**Procedure to be followed**

Participation in this study will involve the randomly picked child to be interviewed during physical education lessons for 10 minutes. Data collected will be recorded. This will be done once. Please remember that participation in this study is voluntarily. You have a right to refuse to allow your child to participate in this study. You may ask questions related to the study at any time. You may allow or stop your child to participate in the study at any time without any consequences.

**Discomforts and risks**

There are no measurable potential risks or discomforts involved in this survey other than anxiety caused by the survey questions. If this happens, your child may refuse to answer the questions if she or he so chooses.

**Benefits**

The study may help school administrators to facilitate the implementation of safety precautions during PE programs. You will also be informed on the issue of safety of your child during PE lessons at school.

**Reward**

If you allow your child to participate in this study, he or she will be bought lunch and you as a parent or guardian will receive cards or flyers with information regarding safety during PE lessons in schools.

**Confidentiality**

The information provided will be held with utmost care and strict confidentiality and is only meant to be used for the purpose of this research. The interview schedule will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private. Your cooperation is highly appreciated. Thank you in advance.

**Voluntary participation**

Your Child's participation is voluntary. His or her refusal to participate or withdrawal from participation at any stage will attract no penalty or any loss. If you have any questions you may contact Dr. Mwangi Francis Mundia on 0722761379 or Dr. Lucy Joy Wachira on 0723842543 or the Kenyatta University Ethical Review Committee Secretariat:Chairman.kuerc@ku.ac.ke,secretary.kuerc@ku.ac.ke,secretariat.kuerc2ku.ac.kemailto:ercu2008@gmail.com.

**Participant's statement**

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time without any penalty.

Name of the participant .....

.....

Signature or Thumbprint

Date

Thank you for your cooperation.

Please put a tick in either of the boxes below as per your decision

I/we parent/Guardian of .....of class/grade..... have given  not  
given  my/our consent for him/her to take part in the study.

Parent/ Guardian Signature.....Date.....

Researcher's Signature.....Date.....

## **Appendix G: Child's Assent Form**

**Title of Research Study: Physical Education Safety Precaution Practices in private primary schools in Nairobi City County, Kenya.**

My name is Stella Nasimiyu Wayong'o- a student pursuing a Master of Science Degree in the department of Recreation Management and Exercise at Kenyatta University. I am conducting a study on “ Physical education safety precaution practices in private primary schools in Nairobi City County, Kenya” The information may help school administrators to facilitate the implementation of safety precautions in PE lessons in schools.

### **Procedure to be followed**

Participation in this study will require that I ask you some questions in an interview schedule during Physical Education lessons for 10 minutes. Data collected will be then recorded. This will be done once. Please remember the participation in this study is voluntary. You have a right to refuse participating in this study. You may ask questions related to the study at any time. You may refuse to respond to any questions and you may stop an interview at any time without any consequences.

### **Discomforts and risks**

There are no measurable potential risks or discomforts involved in this survey other than anxiety caused by the survey questions. If this happens, you may refuse to answer the questions if you so choose.

**Benefits**

The study may help school administrators to facilitate the implementation of safety precautions during PE programs. You will also be informed of the important role that you play in promoting safety during PE lessons at school.

**Reward**

If you agree to participate in this study you will be bought lunch.

**Confidentiality**

The information provided will be held with utmost care and strict confidentiality and is only meant to be used for the purpose of this research. The interview schedule will be kept in a locked cabinet for safe keeping at Kenyatta University. Everything will be kept private. Your cooperation is highly appreciated. Thank you in advance.

**Voluntary participation**

Your participation is voluntary. Your participation or withdrawal from participation at any stage will attract no penalty or any loss. If you have any questions you may contact Dr. Mwangi Francis Mundia on 0722761379 or Dr. Lucy Joy Wachira on 0723842543 or the Kenyatta University Ethical Review Committee Secretariat on Chairman.kuerc@ku.ac.ke,secretary.kuerc@ku.ac.ke,secretariat.kuerc2ku.ac.kemailto:ercu2008@gmail.com.

**Participant’s statement**

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time without any penalty.

Name of the participant .....

.....

.....

Signature or Thumbprint

Date

Please put a tick in either of the boxes below as per your decision.

I.....Agree  do not agree

to take part in this research.

Child Signature.....Date.....

Researcher's Signature.....Date.....

**Appendix H: Teachers' Questionnaire**

**SECTION A: Demographic Information**

Gender-----

School-----

Academic qualification-----

Teaching experience----- (Years)

Class teaching-----

**SECTION B: SAFETY PRECAUTIONS DURING PE**

The following are questions that examine employment of safety precautions during a Physical Education (PE) lesson. Kindly read and answer them honestly.

Please specify the following by putting a tick or filling in where applicable

1. Do you have knowledge in administering First Aid?

a. Yes                       b. No

2. If the answer for the above is 'yes', kindly state when did you last attend First Aid training.

.....

3. First Aid kit is normally available during Physical Education lessons.

a. Yes                       b. No

4. If the answer for the above is 'yes', when do you confirm if it has all the contents?

a. Daily

b. Weekly

c. Before lessons

d. During your free time.

5. Does your class have safety rules for physical education activities?

Yes

No

6. If the answer for the above question is 'yes', how do you ensure that pupils follow safety rules and regulations in each activity?

.....

.....

7. Who inspects Physical Education facilities?

a. Any teacher who is assigned

b. Subordinate staff

c. Head of school

d. PE teacher

8. How often are Physical Education facilities inspected?

- a. Termly
- b. Weekly
- c. Beginning of the academic year
- d. Daily
- e. When need arises

9. How many pupils do you teach in a single Physical Education lesson?

.....

10. How often do you inspect PE equipment?

- a. Daily
- b. Weekly
- c. Termly
- d. When need arises

11. In case of an emergency like fire, where do you expect pupils to go during a PE Lesson?

.....

12. How do you ensure that pupils use only proper equipment during a PE lesson?

.....

13. Do you have written reports about PE facilities and equipment?

- a. Yes                       b. No

14. If the answer for the above is 'yes', kindly state the person who signs the reports.

.....

15. Is there an emergency awareness program in your school?

- a. Yes                       b. No

16. In case of an emergency, are you able to access communication devices on time?

- a. Yes                       b. No

17. If the answer for the above question is 'yes', kindly indicate the approximate time.

- a. 1-5 minutes
- b. 5-10 minutes
- c. half an hour.
- d. one hour
- e. more than one hour

18. Please rate the extent to which you handle emergency cases during physical education program in your school.

- a. Frequently                       b. Infrequently

19. Does your school have an insurance cover?

- a. Yes       b. No

20. If the answer for the above question is 'yes', to what extent are you conversant with its procedures?

- a. Below average
- b. Average
- c. Good
- d. Very good
- e. Excellent

21. Who normally supervises Physical Education lessons?

- a. Physical education teacher
- b. Games teacher
- c. Any teacher
- d. Prefects

**THANK YOU FOR YOUR COOPERATION**

### Appendix I: Pupils Interview based Questionnaire

I am a student at Kenyatta University, pursuing a Master of Science degree in Exercise and Sports Science. I am conducting a study to assess the safety precaution practices observed during Physical Education lessons in private primary schools within Nairobi City County. I am therefore requesting you to be a respondent in this study. The study is purely academic and therefore your response will be treated with utmost confidentiality. Thanking you in advance.

#### SECTION A:

Gender: Male-----Female-----

School-----

Class-----

#### SECTION B

Teachers and students do many things during Physical Education lessons.

1. When going for Physical Education lessons, does everyone in your class put on PE kits?      Yes.                       b. No
2. Do your classmates know where to assemble in case of fire?
  - a. Yes                       b. No
3. Have you ever been informed of risks associated with some activities like swimming or hockey?

- a. Yes                       b. No

4. IF 'yes', mention a few

.....

5. Do you know any part of the court or field that has holes or items that might cause an injury?

- a. Yes                       b. No

6. If 'yes', have you ever informed anybody in the school?

.....

7. What normally happens when a pupil is injured during Physical Education lessons?

.....  
.....  
.....  
.....

8. Do all your classmates know where the First Aid room is?

- a. Yes                       b. No

9. Have you ever seen any child being given First Aid during a PE lesson?

- a. Yes                       b. No

10. If 'yes', explain what happened to him or her

.....

11. When learning skills of a particular sport during PE, do you share equipment sometimes with other pupils?

a. Yes

b. No

12. What do you do when you are given broken equipment?

.....

.....

13. When the PE teacher is not in, what do you normally do during PE lessons?

.....

.....

**THANK YOU FOR YOUR COOPERATION**

### Appendix J: Observation Checklist

SCHOOL-----

CLASS-----

DATE-----

TIME: FROM-----TO-----

#### VARIABLES

#### **SUPERVISION, TYPE OF ACTIVITY, FACILITIES AND EQUIPMENT AND SAFETY MEASURES**

##### **A. SUPERVISION**

Activity	Teacher present	Teacher absent	Attention to pupils	No attention to pupils
Outdoor activities				
Swimming				
Indoor activities				

##### **B. SAFETY MEASURES DURING PE (On going lesson)**

	Present	Absent	Correct	Wrong
Safety gadgets				
Correct attire				

Warm up				
Cool down				
Instructions				

### C. FACILITIES AND EQUIPMENT

Facility	Open field	Availability		Adequacy					Condition				
		Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	Indoor courts	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	Outdoor courts	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	Swimming pool	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
Equipment	Games balls	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	Athletics	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	Swimming	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5
	First Aid kit	Yes ( )	No ( )	1	2	3	4	5	1	2	3	4	5

### KEY

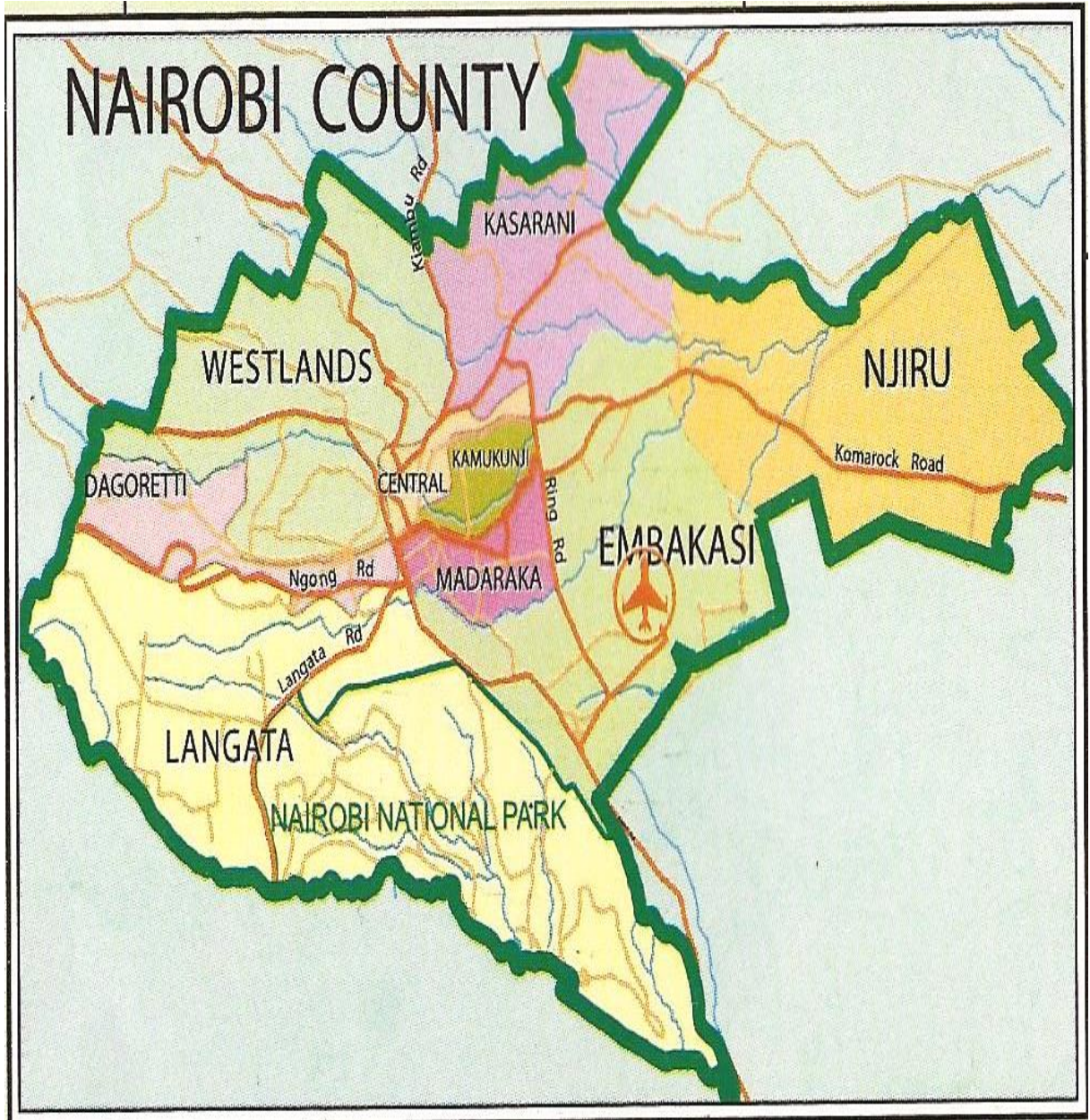
ADEQUACY: Ratio of facilities and equipment to the number of children

1. *Not adequate* 2. *Slightly adequate* 3. *Adequate* 4. *Very adequate* 5. *Exceptionally adequate*

CONDITION: Status of facilities and equipment as per the required safety standard.

1. *Poor* 2. *Below Average* 3. *Average* 4. *Good* 5. *Excellent*

Appendix K: Map of Nairobi County



### **Appendix L: Summary of School Safety Manual (2008)**

In Kenya, the Government (Ministry of Education, 2008) has circulated the School as Safe Zones (SSZ) manual for all schools in Kenya. There are set standards and guidelines which all schools are to put in place to enhance the safety of a child. Each school is supposed to establish a monitoring and evaluation system as an essential component of school safety. Schools are required to have processes of determining their progress towards the achievement of the predetermined objectives relating to School Safety. School play grounds, infrastructure, disaster and emergency preparedness and teaching and learning environment that touch directly on PE are among the components that are supposed to be evaluated.

Playgrounds are to be large enough, properly and regularly supervised and inspected. They should, wherever possible, be located in places with least climatic hazards such as floods, wind effects and similar natural hazards. Moreover, they are to be leveled to make it easier for use by learners and teachers. Playgrounds are to reflect the diversity of sport talents in the school. All physical structures are to have adequate doorways for emergency purposes, open outwards and should not be locked from outside at any time when learners are inside. For storied buildings, the stairways should be wide enough and located at both ends of the building and should be clear of any obstructions at all times. The construction of stairways should give provision for learners with special needs or disabilities. The handrails in the stairs should be strong and firmly fixed. Regular inspection of classroom buildings, halls and stairways should be carried out and immediate measures taken to correct any problems noticed. It is required that the positioning of electrical sockets be beyond the reach of young learners in order to avoid

tampering. The infrastructures are to be clean, well maintained and safe, and properly utilized. The games equipment is supposed to meet the necessary safety requirements.

School environment should be safe to promote learners' concentration on learning and to facilitate the development of their social skills without compromising, in anyway, sustainable biodiversity. Regarding disaster and emergency preparedness, telephone tree and school emergency kit(s) are supposed to be developed and maintained by all schools. Fire drills are to be conducted monthly. Schools are required to have a working and adequate First Aid kit and facilities with all teachers trained in first aid skills. In addition, they are supposed to identify particular hazards of an activity and devise ways to minimize their potential to cause injury or death.

The parties concerned in implementing the directives are to use the manual while bearing in mind the local circumstances. For this reason, school managements and their stakeholders must constantly examine and re-examine the local circumstances and decide on what they need to do to ensure safety of children in and out of schools. However, in all situations, teachers and school managements need to remember that school safety is a collective responsibility of all stakeholders.