

**THE ROLE OF PLAYGROUND FACILITIES ON PRESCHOOL  
CHILDREN'S PARTICIPATION IN OUTDOOR PLAY ACTIVITIES IN  
MOMBASA COUNTY, KENYA**

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## **DECLARATION**

I confirm that this research project is my original work and has not been presented in any other university/institution for consideration of any certification. This project has been complimented by referenced sources duly acknowledged. Where text, data (including spoken word), graphics, pictures or tables have been borrowed from other sources, including the internet, these sources are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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***DEDICATION***

*To my husband Hassan and the boys – Rayyan and Zain*

*My parents Mr & Mrs Wijenje*

## **ACKNOWLEDGEMENTS**

To God Almighty be the glory, He gave me strength to take on and accomplish this fulfilling task even in difficult times. I thank God for enabling me to complete this project.

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## **ABBREVIATIONS AND ACRONYMS**

<b>CRC</b>	Convention on the Rights of the Child
<b>DICECE</b>	District Centre for Early Childhood Education
<b>ECD</b>	Early Childhood Development
<b>ECE</b>	Early Childhood Education
<b>KIE</b>	Kenya Institute of Education
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NICE</b>	National Institute for Health and Care Excellence
<b>PE</b>	Physical Education
<b>UK</b>	United Kingdom
<b>UNDP</b>	United Nations Development Fund
<b>UNICEF</b>	United Nations International Children Emergency Fund
<b>US</b>	United States
<b>WHO</b>	World Health Organization

## ABSTRACT

Studies show that there has been a decline in children's involvement in play. Some studies have therefore sought to establish factors that influence children's participation in play but availability of playground facilities and children's participation in outdoor play has received minimal attention. The purpose of this study therefore sought to establish the role of playground facilities on preschool children's participation in outdoor play activities. The objectives of the study were; to establish the extent to which children participate in outdoor play activities; to identify the types of playground facilities available in preschools; to examine the safety of playground facilities on children's participation in outdoor play activities; to determine the influence of age appropriate playground facilities on children's participation in outdoor play activities. The study was guided by affordance theory by James Gibson that states the possibility of an action on an environment and relationship between the environment and an organism. The study adopted a descriptive survey design. Through random sampling technique, 21 preschools (27%) of 78 preschools in Mvita sub-county, Mombasa County were selected. The sample comprised 21 teachers teaching preschool children aged between five and six from 21 preschools. Questionnaires were used to collect data from the teachers while the observation schedule was utilized to collect first hand data on children participating in outdoor play activities, and availability, type, safety and age-appropriateness of playground facilities. Test-retest procedures were used to establish reliability of the instruments. The instruments were found to be positively correlated at 0.71 using Cronbach's Alpha Coefficient. Content validity was sought by analyzing the items against the study objectives. Quantitative data were analysed by the use of frequencies and percentages for each research question. The findings revealed that children's general participation in outdoor play activities was not influenced by availability or lack of adequate playground facilities. The study also revealed that most children participated in a particular outdoor activity because of the availability and the type of playground facility their school had. Further findings revealed that playground facilities in all schools sampled had issues with safety checks. Based on these findings, it is recommended that schools have adequate number and types of playground facilities so that all children can play in outdoor activities in a conducive and comfortable space to enhance their level of participation. It is also recommended that the County Government conduct routine inspection on the playground facilities to ensure safety measures are in place, while non-governmental organizations to support in provision and installation of playground facilities in preschools.

# CHAPTER ONE

## INTRODUCTION AND CONTEXTUALIZATION OF THE STUDY

### 1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitation and delimitation of the study. The chapter also focuses on the assumptions of the study, theoretical, conceptual frameworks and operational definition of terms.

### 1.1 Background to the Study

Research has demonstrated that regular outdoor play by children makes them healthier, stronger and happier than those who do not (Meckison, 2014). Outdoor play activities are essential in childhood as they give young children opportunities to use their whole body. Children that are more physically engaged in school are likely to explore energetic activities at home, unlike those that are not physically active who mostly engage in sedentary activities like computer games and watching television (Dale, Corbin & Dake, 2000). Research on play illustrates that children tend to have a preference for playgrounds that are more challenging and complex. They learn on multiple levels with every outdoor adventure (Burdette & Whitaker, 2005). Brown (2001) suggests that as children interact with the playground equipment, they experience different opportunities to stimulate age appropriate physical development. The bridges and ramps promote manipulation and coordination while slides and swings promote locomotion, balance and coordination. The development and growth of the fundamental centers of the brain are increased by vigorous outdoor play activities. These centers are fundamental for increased learning abilities and clearer thought (Jensen, 2000).

Research supports that beside the fun, children obtain development benefits when they play on playground facilities involving swinging, sliding, balancing and climbing. Most playground facilities involve climbing activities. Climbing increases visual field, competition, excitement, the feeling of accomplishment, tests agility and improves coordination and balance (Frost, Brown, Thornton, Sutterby, Therrell & Wisneski, 2004). Play environments that give opportunity to play with others and allow for games are what young children often look for. (Strader, 2015). The social interaction of children is improved as they are able to take turns and exercise self-control. As they play on playground facilities they converse and imitate one another (The voice of play, 2016). When children play with peers they improve oral skills, deal with feelings and ideas (Hernandez, 2001).

As children slide, it contributes to vestibular stimulation which stimulates the ear canal and the fluids in the ear helping develop a sense of balance. Swings allow children to develop coordinated movement as they propel themselves (Strickland, 2016). Children's physical development like body coordination, locomotion and balancing skills are improved. Their fine motor is developed as they run, jump and push each other on the swings (Frost, Pei, San, Sutterby & Thornton, 2004). A higher degree of high self-esteem, confidence and independence is exhibited by children that have well developed physical development. Action and movement are important for a child's development, as they are naturally active and full of energy (Olds, 2001).

Research by the WHO (2003) indicated that a wide range of physical, social and mental advantage can be gotten from a physically active lifestyle. For children to learn and enjoy life, they need to be healthy. Viruses and bacteria spread faster in young children in preschools (WHO, 2003). The fresh air in the playground enables children to get out and freely exercise and be less confined in the classroom (Johnson,

Christie & Wardle, 2005). Research on play illustrates that children tend to have a preference for playgrounds that are more challenging and complex (Fjortoft, 2001). Use and access to outdoor space can also increase interaction and that too can have a positive effect on health wellbeing (Cohen & Flinch, 2008).

The surgeon general report (2010) revealed that almost 33% of the American children are obese or overweight. Studies done on children's play pattern worldwide suggest that children in England, Japan and Canada spent limited time outdoors, (Clements, 2004). According to Howard (2007), for many years now, the United States has been reducing children's opportunities to engage in play. This is true in many other countries. This could be due to busy schools schedules and poor play environment. The basic children's right to play has become sidelined, mostly seen as unaffordable luxury (Elkind, 2007). Majority of the preschools have put more emphasis on academic work and disregard outdoor play activities. Currently children's play is facing threat in most preschools as priority is given to early acquisition of academic skills (Zigler & Bishop, 2009). Our education system is more academic oriented making most stakeholders to emphasis more on attainment of academics over the benefits of outdoor play.

Research has pointed to a link between levels of parental fear of outdoor and public space and a reduction in time spent outside by children (Mackett & Paskins, 2004). Parents increasingly put restriction on children's independent mobility in outdoor environment (Veitch, Bagley, Ball & Salmon, 2005). Society has negatively influenced the time children spent outdoors. This is informed by its concern over crime and children's safety in the public playgrounds. These fears have led to a decrease in the time spent outdoors and so is the vision of childhood (Sutton, 2008). Many recreation parks post the "keep off the grass" sign. These posts have limited

children's free interaction in the parks. The parks have been left for admiration and not played in. Most parents nowadays feel more settled with their children at home than playing in the outdoors (Clement, 2000).

The situation on children's participation in outdoor play is not different in Africa. The Daily Monitor (2007) issued a plea for parents to allow their children out into the outdoors. It feared that many Ethiopians will reach adulthood with very little experience of outdoor. In most developing countries, urbanization has affected children's involvement in outdoor play. The young ones are in many ways most profoundly affected by the pressures and hazards of urbanization (UNICEF&UNDP, 2000). For instance, in Tanzania, most children in urban areas play in heaps of garbage littered with dangerous and even toxic materials (UNICEF, 2012). Children's love for outdoor play makes them play anywhere and at every given opportunity. This brings up the need to find out to what extent children participate in outdoor play activities.

In Kenya, studies on play that have mainly focused on the extent of children's participation in physical education, games and play purport that involvement in outdoor has been on decline. In recognition of the importance of outdoor play the government, through the implementation of the Early Childhood Development Service Standard guidelines (2006), allocated more time for outdoor play than any other area in the early childhood syllabus. Precisely (KIE, 2008) has allocated five outdoor play lessons each of thirty minutes in a week. Despite these efforts by the government, there has been low involvement in play among children (Waithaka & Wanderi, 2012). According to DICECE (2009), low involvement in play among young children in Emuhaya sub county has been confounded by lack of a safe and rich play environment. A study by Macharia (2012) in central division, Naivasha

district on the influence of school playground safety on the participation of preschool children in outdoor activities revealed that children tend to comfortably engage in play in an environment where they feel safe. However, the study did not focus on factors of playground facilities that played some role on children participation in play. This study sought to find out the role of playground facilities on preschool children's participation in outdoor play activities in Mombasa County.

## **1.2 Statement of the Problem.**

Outdoor play activities are essential in childhood as they give young children opportunities to use their whole body. An active lifestyle from outdoor involvement ensures a wide range of benefits from social, physical, cognitive and emotional well-being. Despite these immense benefits of outdoor play there is limited time spent outdoor by children in industrialized countries. In African countries, many children do not get ample outdoor experience due to emphasis on academic and playground related challenges. In Kenya, studies have established that children involvement in outdoor play has been adversely affected by emphasis on academic work. Most of the preschools in Mombasa County limit outdoor interaction of their children. This situation could be mainly due to pressure from parent and the preschool administration on classroom grades, inadequate resources especially in public preschools leave most playgrounds unattended to, and lack of awareness on the importance of well-maintained playground facilities in regard to children's involvement in outdoor play. In addition, some school owners start preschools purely for profit making with disregard of children's needs for play and hence see no need to maintain and equip the playground. Thus, this study sought to examine the role of playground facilities on preschool children's participation in outdoor play activities.

### **1.2.1 Purpose of the Study.**

The purpose of this study was to establish whether type, safety and age-appropriateness of playground facilities affect the level of participation by preschool children in outdoor play activities. They study specifically sought to determine the role of playground facilities on preschool children's participation in outdoor play activities in Mombasa County.

### **1.2.2 Objectives of the Study.**

The objectives of the study were:

1. To establish the extent to which children participate in outdoor play activities.
2. To identify the types of playground facilities available in preschools.
3. To examine the safety of playground facilities on children's participation in outdoor play activities.
4. To determine the influence of age appropriate playground facilities on children's participation in outdoor play activities.

### **1.2.3 Research Questions**

The research questions included:

1. To what extent did the children participate in outdoor play activities?
2. What types of playground facilities were available in preschools?
3. To what extent were the playground facilities safe for children to play?
4. How did age appropriate playground facilities prompt children's participation in outdoor play activities?

### **1.3 Significance of the Study**

The findings of this study may be of significance to early childhood teachers, administrators, school managers, playground supervisors, parents and child care organizations to give them a better understanding of the role of playground facilities on children's participation in outdoor play activities. The findings can be a basis on which preschool managers take into consideration the varied ages of learners when purchasing playground facilities.

The study findings may also be of significance to the DICECE officers and the County Government of Mombasa as they supervise preschools to ensure that the playground encourages preschool children participation in outdoor activities. The Ministry of Education may also benefit from the findings as it is responsible for policy formulation to plan programmes that ensure children are given opportunity to participate in outdoor activities through an enabling school environment.

### **1.4 Limitations and Delimitations of the Study**

#### **1.4.1 Limitations of the Study**

The research was limited due to financial and time constraints. To overcome the time constraint, the researcher planned systematically the visits to the preschools so that preschools that are within the same locality were visited at the same time.

#### **1.4.2 Delimitations of the study**

The study was limited to preschools in Mvita Sub County in Mombasa County and therefore its findings and recommendations cannot be generalized to preschools in other counties due to regional, social economic and religion factors. The study also targeted preschool teachers because they are the ones involved with the children and are able to provide information about their participation in outdoor activities.

## **1.5 Assumptions of the Study**

The study assumed that all the preschools in Mvita Sub County in Mombasa County have an arrangement of outdoor play activities and that all the preschools have adequate number and types of playground facilities. The study also assumed that all schools have safe playground facilities that are age-appropriate. The researcher assumed that the respondents for this study would cooperate and give correct information in the questionnaires.

## **1.6 Theoretical and Conceptual Frameworks**

### **1.6.1 Theoretical Framework**

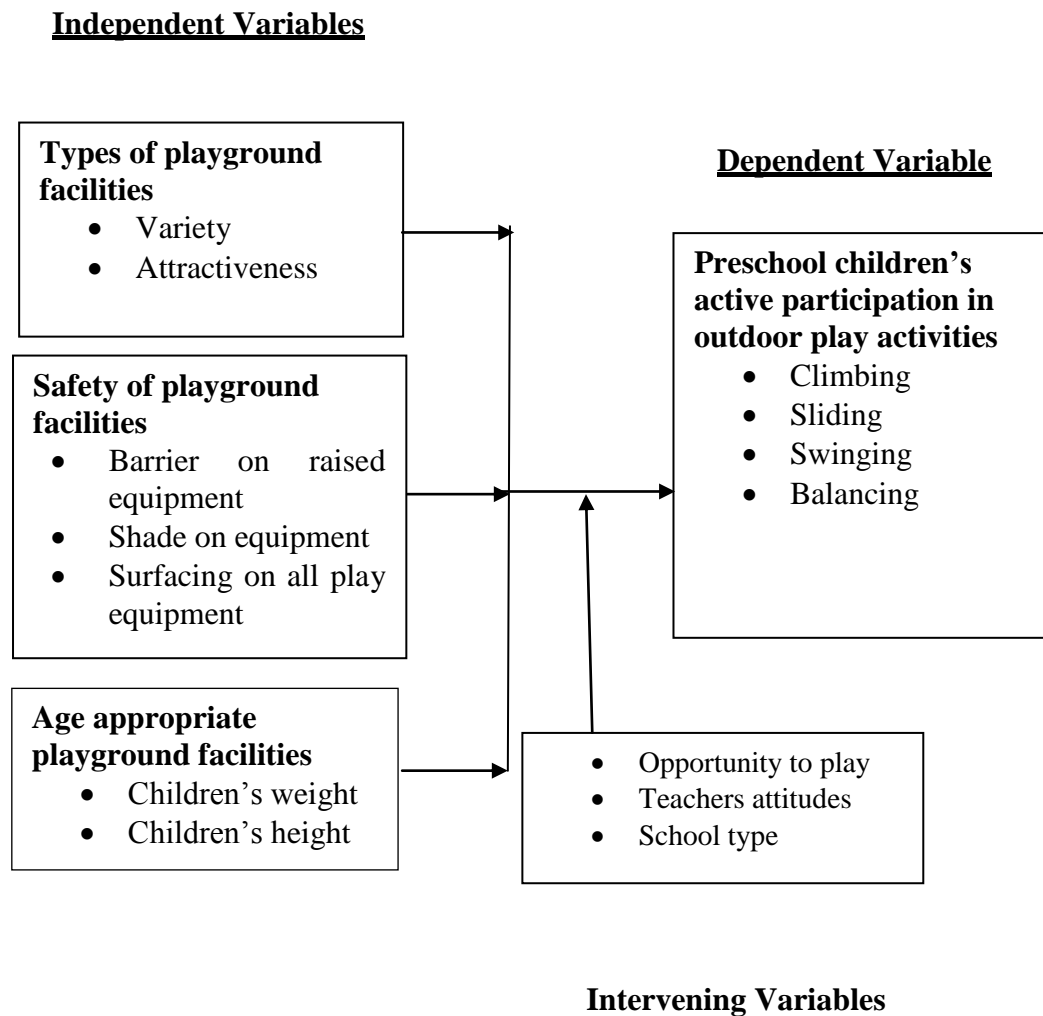
This study was guided by Affordance Theory. According to James Gibson, affordance is the possibility of an action on an environment. This theory is on the relationship between an environment and an organism. The environment affords the opportunity for the organism to perform an action. It is independent of an individual's ability to recognize them. This is dependent on the meaning given to the object by the person who perceives them. It is also dependent on their capabilities of the agents. In this case the agents are preschool children. Preschool children develop a perceptual understanding of the world with a focus on the functional use of space and objects. The affordance of an environment is what the equipment offers the children. The playground gives an opportunity of a relationship between the preschool children and the playground facilities. For instance, a monkey bar affords climbing, swinging, jumping off, and hanging while a swing affords swinging, pumping legs and propelling. This makes a well-equipped playground a rich play environment for young children to learn as they play on.

In this study, the theory brings a link between action and perception. The theory further illustrates that the action is related to perception of what the physical environment furnishes. The behavior of one depends on their perception of the environment. Children's involvement in outdoor play activity is a graphic enactment of this theory. Actions like balancing, jumping, climbing sliding, and swinging need attention. One has to pay attention on the environmental elements in this case the playground facilities. For instance, the preschooler perceives the structure of the climber such as a monkey bar and notes its important features: like height, is the facility too high, too short or of manageable height. The nature of the ladder in terms of presence of side barriers and angle of inclination is it steep or a gentle slope. Presence of hanging bars and the surfacing beneath it does it give a safe landing. This information gives them a basis of making a decision on whether to anchor on the bars or not. This important information gives meaning to the children about affordance of the playground facilities. Affordance theory is appropriate for this study because it gives an understanding on children's participation in outdoor play activities. The teacher who is also a supervisor on the playground guides young children on the correct use of the playground facilities. Learners may use the potential of the playground facilities to determine their participation. Upon seeing playground facilities, a child will interact and play on it.

### **1.6.2 Conceptual Framework**

A conceptual framework is on the role of playground facilities on preschool children's participation in outdoor play activities. The independent variable in the study was composed of; types of playground facilities, safety of playground facilities, and age appropriateness. The intervening variable consisted of; opportunities to play, teachers' attitude and the type of school, whereas the dependent variable was preschool

children's active participation in outdoor play activities. This is further illustrated in Figure 1.1.



**Figure 1.1: Playground Facilities and children's participation in play**

## 1.7 Operational Definition of Terms

**Age appropriate playground facilities:** This is determined by the size of the playground facilities in terms of weight and size.

**Extent of children participation:** The percentage of children involvement in play activities on the playground facilities.

**Outdoor play activities:** Freely chosen, manipulative and psychomotor engagement that are done outside.

**Participation:** Children's involvement in outdoor play activities.

**Playground facilities:** The fixed play equipment for example swings, climbers, slides and see saw.

**Playground:** Outdoor environments children use for play, fun, enjoyment and to gain experiences that will enhance their physical, intellectual, social and emotional development.

**Preschool:** Formal institution for five to six years old children being prepared to join primary school.

**Private Preschool:** Institution of early learning owned and managed by individuals or organizations that receive no government funding.

**Public preschool:** Preschool managed by parents in terms of the provision of finances, physical facilities, staff, and teaching and learning materials without any interventions from the government or any other organization.

**Safety of playground facilities:** Measures put in place to ensure that playground facilities are safe to enhance children participation

**Types of playground facilities:** includes swings and slides. Varied in regards to different shapes, forms and functionality of playground facilities, broadly classified as swingers, climbers, slides.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Introduction**

In this chapter, the researcher reviewed literature related to extent of children participation in outdoor play activities, the types of playground facilities available, the safety and age appropriateness of playground facilities and preschool children participation in outdoor play activities. The chapter also presents a summary of the literature reviewed.

#### **2.2. Overview of Playground Facilities**

A playground is a space designed and equipped for children to play. A variety of factors determine the quality of a playground. These include playground facilities, safety, adult supervision and accessibility (Johnson, Christie & Wadell, 2005). Playgrounds are characterized by protective surfacing, fencing, signs, internal routes and play equipment (Wadell, 2011). Therefore, playground facilities have a role in children's involvement in play. ECD professionals appreciate the prospects of outdoors for class work extension. Time spent outdoor is an opportunity to promote children's development. It should not be limited to improvement of physical skills but also cognitive social, creative and emotional abilities (Essa, 2010). It is important for a playground to be equipped to allow learners an opportunity to have fun and learn at the same time. Play is a cherished part of childhood. According to the American Academy of Pediatrics (2007), play exposes children's creativity. It enhances their imagination, cognitive ability, physical skills and emotional strength. Children discover their world and explore adult roles. Childhood is a time of increasing independence. The Australia National Quality Standard (2013) argues that large

spaces within which children play means that when outside, children are often away from adult supervision. This helps them to learn independence by socially interacting with other children as well as learning to play by themselves. As children play, their self-esteem improves and their young minds open up to new possibilities. They develop social, problem solving, and verbal skills (Linda, 2008). Children acquire vocabulary, improve self-confidence and become aware of others' needs (Zigler & Bishop, 2009). Through play, children learn to negotiate, form attachment, take risks and overcome challenges. They develop friendships and a sense of belonging to a group. (Springate & Foley, 2008). Hubbuck (2009) suggests that outdoor play activities provide an avenue to experiment with new skills, complex relationships, and thinking through complicated ideas. This is only possible if the play space is equipped with variety of playground facilities that are maintained to ensure safety. This study therefore sought to establish how preschools in Mvita Sub county have ensured the availability of playground facilities for children in outdoor play activities.

### **2.3. Children's participation in outdoor play activities**

Playing outside is one of the greatest joy of childhood but it serves a larger purpose than just being away to have a good time. Research indicates that outdoor play is important for all age groups especially early childhood. It also provides a chance for physical exercise and social interaction as well as developing the emotional and psychological aspects (NICE, 2010). According to the Play Strategy for Scotland (2013), outdoor play allows children to be physically active, challenging themselves so that they sleep and eat well. Play helps in formation of healthy habits that will stay with them for life. Great opportunities for childcare professionals to support the children's gross motor development is created by the children's desire to interact with others and the child's natural enjoyment of Active play. Outdoor play allows for

development and practice of social skills. Hence play gives young children an opportunity to learn how to co-exist with others in a more fun and less stressful way.

The use of and access to outdoor spaces can increase social interaction and wellbeing (Cohen & Finch, 2008). Children learn about relationships and how to behave as members of a team. They also learn rules and make friends. As they interact with other children outdoors, conflicts may occur which they are able to resolve and in the process learn self-control (Sara, 2007). Social development is a precursor for cognitive development (Gummer, 2010). The rich social interaction attained outdoors by children brings a connection with their education (Senda & Kuwabara, 2007). It also gives a change of pace from the classroom that is much needed by both teachers and children (Blair, 2009). Playgrounds that encourage high levels of active play promote children outdoor interaction (NICE, 2010).

According to Narim and Ipsos MORI (2011), children in the UK compared to those in Sweden and Spain had fewer opportunities for fun outdoor activities. These studies were however done in Western countries. Waithaka (2009) in a study of children's involvement in informal play and games in Kenya purported that there was a decline in children's play. However, the study focused merely on children's participation in outdoor play activities without the involvement of playground facilities as a factor. This study therefore sought to establish the role of playground facilities on preschool children's participation in outdoor play activities.

#### **2.4. Types of playground facilities**

Playground facilities offer opportunities for imaginative, physical and cognitive development. According to Karin and Paul (2014), commonly found playground facilities include climbing structures, swings, slides and spring riders. These facilities

have attractive colours that are appealing to young children, making them want to play on them hence spent time outdoors. According to Childcare Service Act 2007, there is no definite list of toys and equipment that a Child Care Institutions must purchase but they should be suitable for the child's developmental stage. Children need new experiences for high quality play (Better Brains for Babies, 2015). Despite the difference in the way boys and girls use facilities, play areas need to offer children challenge, diversity and complexity (Health Council of the Netherlands, 2004). Nature of play space influence children behavior. Children that played in equipped play spaces socially developed according to their physical ability. The tougher ones are more physically dominating (Bird, 2007).

Playground facilities challenge and stimulate children giving them new experiences each time they play (Playgarden, 2016). Play structures promote social play because they provide children with a place to meet and communicate. Through the act of playing, they learn social and cultural rules. Play structures and play spaces increase children's cooperative play, social interactions, physical skills and abilities. Young children look at play environments that allow for games and opportunity to play with peers (Strader, 2015). The playground facilities appeal to young children and hence make them interested and curious to interact with them. Interaction with play facilities provides building on, mastery of existing skills, or for learning a new skill (Little & Eager, 2010).

When children are pushed on a swing or when they propel a swing by themselves, they engage all their muscles to hold on, balance and coordinate their body to the rhythmic back and forth movements of the swing. Swings provide children with firsthand knowledge and experience of cause and effect and understanding spatial

learning such as up and down, back and forth. They also get a chance to see the world from a new perspective (Early Headstart National Resource Centre, 2013).

Research done by Little and Eager (2010), and Fromberg (2002) and conducted in industrialized nations has revealed that the availability of playground facilities positively influences children's participation in play. Studies done in Australia showed that children enjoy having enough space to play and use playground facilities (Veitch, 2007). These studies have been conducted in environments that due to the socio economic status varies from the Kenya situation. The results may not be generalized to Kenyan setting. However, research done by Millicent (2010) to assess the impact of learning materials on children's performance in ECE Centre in Suba East, Migori District, found that most teachers put more emphasis on equipping the indoor environment with play materials as opposed to the outdoor environment as they viewed the classroom to be more important than the playground. However, in this study, the researcher focused on the playground facilities like slides, swings, see saw and climbers and how they promote children's participation in outdoor play activities.

## **2.5 Safety of playground facilities and participation in play**

Playgrounds that encourage high levels of active play promote children outdoor interaction (NICE, 2010). Adults have a role of guiding children's play. This is a very essential role. The risks associated with the play activities being undertaken in the playground determines the number of adults that would be required to supervise play. The Outdoor play area standard for Centre-based child care suggests that activities involving slides and swings require extra adults for supervision of the play. Presence of a supervisor in the playground provides a caring atmosphere for children to explore. According to Big Toys (2017), the main role of a playground supervisor is to

ensure the safety and welfare of children. As children play in the playground, they should be visible to at least one adult supervisor (Kern & Wakeford, 2007). A supervisor's approach on playground supervision may influence children's physical safety and opportunities to develop emotionally, socially, cognitively and physically (Big Toys, 2017). Cultural influences may determine how adults carry out supervision. Norwegians have a liking for outdoor, therefore encourage children in their outdoor interactions (Guldberg, 2009). Adults who have had more regular contact with children tended to have more positive attitude to the children (Rocket Science, 2007). A pocket first aid kit should always be with the adult supervisor. Any injury as a result of the children's play activities should be recorded. Periodic checking for loose nuts and bolts and broken, rusty, or sharp parts should be done (American Academy of Pediatrics, 2016). Research by Wilkinson (2001) suggests that the most important elements in the playground facilities are to provide both safety and entertaining outdoor opportunity.

According to Public Playground Safety Handbook (2008), an adult should check for broken equipment and prevent children from using them. One should also check for and remove unsafe modification especially ropes on equipment and check for properly maintained protecting surfacing. Children of different age groups are attracted to slides, a common play structure. Slides are an excellent feature for any school playground (School playground, 2011). Outdoor play facilities are usually exposed to adverse weather. Direct sunlight heats up bare metal slides and may cause serious contact burn injuries. To reduce the impact of the sun, bare metal slides should have an anchored shelter. Alternatively, insulation materials such as plastic or wood may be used (Public Playground Safety Handbook, 2008).

Guardrails should surround any elevated platform with the exception of the entrances and exits openings (Public Playground Safety Handbook, 2008). The opening on the guardrail without a top horizontal guardrail should be 15 inches. The National Safety Council Mission (2016) suggests that fall surfaces should be made of protective material. These materials include wood chips, sand, pea gravel, or rubber mats. For safe landing, the protective material should be at least 12 inches deep. To avoid head entrapments, all opening on equipment should not measure between 3.5 inches and 9 inches. Playground facilities with a fall height of 1.2 meters should have a protected surfacing and should be installed at least 6 feet from fences or wall on a level surface and be anchored firmly to the ground. All screws and bolts should be capped.

Outdoor play surface shall be free of sharp objects harmful plants and discarded material and equipment (K.I.E, 2008). A study by Macharia (2012) on the influence of school playground safety on participation of preschool children in outdoor activities in Naivasha District, Kenya, concluded that the safety of preschool children in their outdoor activities is equated with adequate play space, proper surfacing of playgrounds, regular maintenance, active supervision of children while at play and inspection of play areas and facilities. The studies done have not adequately revealed how safety of the playground facilities promotes participation of preschool children in outdoor play activities, and therefore this study sought to address this gap.

## **2.6 Age appropriate playground facilities.**

The consumer product safety commission (2011) recommends that young children's playground should be composed of age appropriate playground facilities scaled to their sizes, ability and developmental level. For instance, handles should be smaller, bridges and platforms should be low with guard rails and hand rails, slides should be short (under 4 feet), and stairs should have gradual (not steep) incline. Public

playground facilities should be built for children of varied ages (Consumer Product Safety Commission, 2011). The design should allow for gradual development and exercising of skills by providing a series of graduated challenges. The facilities should be appropriate for the child to be able to perceive and choose what to undertake (Wadell, 2011). Age appropriate playground facilities give young children challenges like climbing poles, slides and swings that make outdoor experiences worthwhile. Young children have varying needs and abilities at different stages of their growth and development. According to Article 31 of CRC (1989), it is the right of children to engage in play and recreational activities appropriate to their age. Age appropriate playground facilities encourage risk taking and independence in children. The climbing areas should have lower and higher climbing platforms to cater for the various levels of physical abilities of children (Casey, 2007).

Findings from research done in England by Thigpen (2007) suggested that age appropriate facilities and sufficient space allow children to move around fast, slowly change direction and manipulate their environment. This however does not reveal the influence of age appropriate playground facilities on preschool children's from Kenyan context and therefore this study sought to find out how age appropriate playground facilities promote participation in outdoor play in the Kenyan setting.

## **2.7 Summary of the Literature Review**

The reviewed literature reveals that preschool children's participation is positively influenced by their involvement and interaction with different playground facilities. Most studies conducted on the role of playground facilities on preschool's children on outdoor play activities have been done in western countries. Findings from these studies cannot be generalized to the Kenyan situation owing to socio-cultural differences that exist between countries. Studies conducted on playground facilities in

Kenya have predominantly focused on the involvement of children in using the playground facilities and not how the playground facilities have promoted their participation in outdoor play activities. This study therefore sought to fill the identified gap by establishing the role of playground facilities on preschool children's participation in outdoor play activities.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology that the researcher employed in carrying out this research project. It covers the research design, variables, location of the study, target population, sample and sampling techniques proposed. It also discusses the research instruments, pilot study, validity and reliability of the instruments. The methods employed in the collection and analysis of data will also be discussed.

#### **3.2 Research Design**

The researcher employed descriptive survey research design. The research design was used to integrate the different components of the study in a coherent and logical way ensuring it addressed the research problem. It guided how data was collected and analyzed. Descriptive research can be used to gain a vast amount of information. It has an advantage of studying individuals in their natural environment without the influence of artificial aspects of an experiment. It also helps to draw valid general conclusions from the fact discovered (Boundless, 2016). In addition, Kothari (2004) states that the researcher has no control over the variables and only reports what happens or what is happening. The descriptive survey design was appropriate because this type of research depicts the state of affairs as it exists. In the project, the researcher collected data on the role of playground facilities on preschool children's participation in outdoor play activities.

##### **3.2.1 Variables**

The dependent variable was preschool children's active participation in outdoor play activities. The study measured preschool children's participation in outdoor activities

using playground facilities. The indication of participation was measured by the number of children playing with the available playground facilities in their school. The independent variable consisted of the type, safety and age appropriateness of playground facilities. The type of the playground facilities in the preschool was measured by the number and state or condition of the playground facilities available in the sampled school, while the safety of playground facilities was measured by the score of respondents on safety checks on playground facilities put in place, adult supervision, and the maintenance of the playground facilities. Age appropriateness was measured in terms of the facilities' suitability for use. The intervening variables were opportunities to play, teachers' attitude and school type.

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

Mombasa is a cosmopolitan settlement of the indigenous Coastal people and those coming from upcountry who have migrated to Mombasa in search of employment and other forms of socio-economic activities. Mvita Sub County of Mombasa County was the study location. Mvita Sub County consists of Mombasa central, parts of Mombasa Island North and Mombasa Island South. The study area consisted of up market areas like Kizingo, High Level and Tudor Norah. Ganjoni and Tononoka represent the middle class while the low income settlements are Mwembe Tayari and Bondeni. The Mworoto and KaaChonjo slums are also found within Mvita Sub County. The population has a varied skill set ranging from company directors to casual labourers. This translated to the population having children from the very rich to the poor homes. Islam and Christianity are the predominant religions of the Mvita population. A larger population ascribes to the Islamic faith. Less than a quarter of the population is Hindu. Religion tends to dictate how children relate with one another hence how

they play in the playground. Religious and cultural leanings also determine how adults supervise play (Guldberg, 2009).

The rationale of choosing Mvita Sub County was that most preschools in the Sub County limit outdoor interaction of their children and also because of its urban diversity: culturally, religiously and socio-economically. This provided a reliable mix for comparison of the playground facilities factors and preschool children's participation on outdoor play in preschool children activities.

### **3.4 Target Population**

Preschools within Mvita Sub County formed the intended population of this project. The study focused on both public and private schools in Mvita Sub County. Total number of children in the sampled schools was 500, while total number of preschools in Mvita Sub County was 78. Twenty one (21) preschools were sampled to participate in the study. Out of the 21 schools sampled using Random Sampling Technique, seven (33.3%) schools were public schools whereas 14 (66.7%) were private schools. The total number of children in the seven public schools sampled was 151 (30%) whereas the total number of children in the 14 private schools sampled was 349 (70%), showing that private schools in the sample had many children participating in the study than in public schools.

### **3.5 Sampling Techniques and Sample Size**

To guarantee that the sample chosen was representative of the population and the sample was selected in an unbiased way, the researcher employed simple random sampling technique whereby all the 78 preschools were alphabetically listed on a Microsoft Excel sheet then random number generator applied to select 21 preschools. This was 27 percent of the total number of schools in the two categories. Mugenda

and Mugenda (2003) assert that a representative of 10-30% of target population is acceptable for survey studies. Of the sampled 21 preschools, seven were public schools while 14 were private schools. There are more private than public preschool in Mvita Sub County. Purposive sampling technique was then used to sample respondents who were teachers from the private and public schools. Purposive sampling ensured that only teachers that handle young children who are between five to six years were considered. These were preschool children mostly doing their final year of preschool. These teachers were more acquainted to the children as they had interacted with most of them for at least two years. The study therefore selected one teacher from each school sampled. A total of 21 teachers were selected for this study to respond to the questionnaire and give feedback from observations involving children participation. Purposive sampling, being non-probability based, allowed the researcher to select a sample based on the objectives of the study. The selected sample has the required characteristics and is informative too (Mugenda & Mugenda, 2003). Table 3.1 presents the sample size of the study.

### 3.5.1 Sample size matrix table

**Table 3.1 Sample size matrix**

<b>Category</b>	<b>Schools</b>	<b>Teachers</b>	<b>Children</b>
Public	7	7	151
Private	14	14	349
Total	21	21	500

### **3.6 Research Instrument**

The research study employed two tools for data collection. The tools employed to collect data on the playground facilities and children participation in outdoor play were questionnaires for teachers and observation schedule.

#### **3.6.1 Questionnaire for the preschool teachers**

Quantitative data from the teachers were obtained by using closed ended and open questions in the form of a questionnaire. The instrument established the extent to which children participated in outdoor play activities and examined safety of playground facilities in terms of teacher's supervision. The questionnaire was utilized because it aided cost effective collection of relevant information from the large population especially within a short time.

The questionnaire had two sections: Section **A** on demographic information of person completing the survey and Section **B** on playground facilities and their role in preschool children's participation in outdoor play activities. On background information, the teachers responded on three question items that required them to describe their socio-demographic characteristics. They indicated their sex, age and years of teaching experience. They responded on items by ticking on the questionnaire.

The coding instructions for this section were as follows: sex included two categories as 1=male and 2=female. Categories for age were 1=(20-29), 2=(30-39), 3=(40-49), 4=(50-59), 5=(60+). Categories for years of teaching experience were 1=(0-3), 2=(4-10), 3=(10-15), 4=(15-20), 5=(20+).

Section B of the questionnaire contained fifteen question items that measured the playground facilities used by preschool children in the study area in outdoor play

activities. Children participation were measured using teachers' responses to these items. In some items, the teachers were required to respond by ticking on the questionnaire, while in other times they were required to give answers to open-ended questions.

### **3.6.2 Observation Schedule**

The researcher, with the help of preschool teachers, conducted the observation in the sampled preschools. The observation schedule was used to collect data on the extent to which children participated in outdoor play activities, the types of playground facilities available and safety of the playground facilities in terms of presence of barriers, shade and type of surfacing. It gave first-hand information on the state of playground facilities.

### **3.7 Pilot Study**

According to Wisseman and Juris (2005), it is necessary that research instruments be piloted as a way of determining validity and reliability. The instruments were piloted to preschool teachers in one private preschool and one public preschool in Mvita Sub County in Mombasa County. This study was used to help identify ambiguity in the questions for correction before carrying out the actual study. The pilot study was to check that the language used in the research instruments was simple and clear enough. The two schools involved in the pilot study were not included in the research in order to avoid the effect of pre-test sensitization.

#### **3.7.1 Validity**

Validity of a test gives legitimacy to what has been measured (Kombo & Trump, 2006). Content validity was sorted by checking the items in the questionnaire against the research objectives. The judgment of early childhood experts was useful in

ensuring the items are well stated. Expert opinion was critical as useful items were added and ambiguous ones removed from the questionnaire before the actual administration to respondents. This ensured content validity.

### **3.7.2 Reliability**

Reliability measures the accuracy and preciseness with which a research instrument gives reproducible results (Mugenda & Mugenda, 1999). Reliability of the instrument was tested from data collected at the pilot stage to confirm the reliability of the instruments used. The instrument was administered twice to the same group of participants; the second administration was given after a period of two weeks. The results of the two administrations were compared and correlated using Cronbach's Alpha to measure the instrument's stability and consistency. The instrument was found to be positively correlated at  $r=0.71$ . For element quantification test-retest reliability, statistical tests factored this into the analysis and generated a number between zero and one, with 1 being a perfect correlation between the test and the retest. Therefore, the instrument used to collect data on playground facilities for this study at  $r = 0.71$  was accepted as reliable.

### **3.8 Data Collection Techniques**

The Questionnaires were administered to preschool teachers handling the five to six years old preschool children. 7 teachers in sampled public school while 14 in private schools were asked to fill in the questionnaires as guided in appendix I. Questionnaires allowed for the respondent to give more accurate response due to non-interference. It also allowed for a large number of issues and questions of concern to be addressed in a relatively efficient way. The researcher visited preschools and used an observation schedule to collect data on preschool children's participation in

outdoor play and on the playground facilities. The researcher made rapport with the preschool children and observed them as they played on the playground. This was guided by the observational schedule in appendix II. Observational schedule allows for collection of first-hand information by the researcher.

### **3.9 Data Analysis**

The filled-in and returned questionnaires and observation schedule were cross examined for totality. Data obtained from the questionnaires and observation schedule was categorized, coded and keyed for analysis. Thereafter frequencies, descriptive and inferential statistics were generated. Descriptive analysis was used to analyze the quantitative data by use of frequencies and percentages for each research question. While in the qualitative data, a data reduction process on the raw data done to focus on what was meaningful in line with the research questions, content analysis was done by coding the data to identify patterns and interpret meaning. Microsoft Excel software was used to prepare and organize both the quantitative and qualitative data. Data was organized on tables to draw conclusions.

### **3. 10 Logistical and Ethical consideration**

The study took the following logistical and ethical considerations:-

#### **3.10.1 Logistical considerations**

A letter seeking permission for data collection was sought from the Graduate School of Kenyatta University. The researcher then obtained permission from the NACOSTI. The researcher obtained consent from County Education Officer to go to the preschools and make appointment with the head teachers and the teachers to discuss on the study and schedule dates for visiting and collecting data.

### **3.10.2 Ethical considerations**

Kombo and Trump (2006) asserts that researchers whose subjects are people must consider the conduct of their research and give attention to ethical issues in relation to their study. This study ensured ethics were considered from the preliminary of the study to the end. The informed consent of each participant and even learners through the teachers and parents was sought and the principle of voluntary participation enforced. This study involved human being that is teachers and preschool children therefore the researcher ensured that the data collection process did not in any way cause physical or psychological harm to the participants. The researcher treated the information gathered from the research participants with confidentiality. This involved not writing the participants names on the questionnaire.

## **CHAPTER FOUR**

### **PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents interpretation of the data collected in order to establish factors that playground facilities have on children's participation on outdoor play activities in Mvita Sub-County, Mombasa County. At the beginning, the chapter focuses on the demographic variables of the respondents. Data analysis guided by the objectives and results are discussed under the following headings:

- i. Demographic data of preschool teachers
- ii. Children participation in outdoor play activities.
- iii. Types of playground facilities.
- iv. Safety of playground facilities.
- v. Age appropriate playground facilities and children's participation.

#### **4.2 General and Demographic Information**

##### **4.2 General Information**

In this study 21 preschool teachers were sampled to participate. All of them accepted to participate in the study.

##### **4.2.1 Demographic Data of Preschool Teachers**

The demographic information that was required of the preschool teachers included; the teachers' sex, age, and years of teaching experience. The tables below present the results of the preschool teachers' demographic information.

#### 4.2.2 Preschool Teachers' Gender

Preschool teachers who participated in the study were asked to indicate whether they were male or female. The results revealed that there was not a single male preschool teacher. This finding suggests that only female teachers are employed to teach in preschools.

#### 4.2.3 Preschool Teachers' Age

Preschool teachers were asked to indicate their age by ticking the age-bracket provided in the questionnaire. Table 4.1 presents the results to that effect.

**Table 4.1 Preschool Teachers Age Bracket**

	<b>Frequency</b>	<b>Percent</b>
20 – 29	7	33.3
30 – 39	10	47.6
40 – 49	3	14.2
50 – 59	1	4.7
60+	0	0

The table indicates that almost half (47.6%) of preschool teachers were in the age bracket of between 30 and 39 years. At this age bracket, teachers are agile and physically activity and therefore exudes a lot of energy while handling preschool children in all aspects of learning including outdoor play activities. One in every three of the preschool teachers (33.3%) was in the age bracket of between 20 and 29 years. Slightly over a tenth (14.2%) were in the age bracket of 40 – 49, while only a few

(4.7%) were in the age bracket of between 50 and 59 years. There was no Preschool teacher aged 60 years and above.

#### 4.2.4 Preschool Teachers' Experiences

Preschool teachers were asked to indicate the number of years they have been teaching. They were required to select period ranging between; 0-3 years, 4-10 years, 10-15 years, 15-20 years, and 20+ years. Table 4.3 presents the results on preschool teachers teaching experience.

*Table 4.2: Preschool teachers' experience*

	<i>Frequency</i>	<i>Percent</i>
0 – 3	0	0%
4 – 10	10	48%
10 – 15	4	19%
15 – 20	5	24%
20+	2	9%

This results of the study show that almost half of the teachers (48%) have between four and ten years of experience as ECD teachers, a quarter of the teachers (24%) have taught in ECD for between 15 and 20 years. The findings reveal that majority of ECD teachers have a vast teaching experience spanning between four and twenty years. None of the teachers interviewed had less than four years of teaching experience. The study implies that virtually all of schools in Mvita Sub County engage ECD teachers with more than three years of teaching experience.

### 4.3 Children Participation in Outdoor Play Activities

The first objective sought to establish the extent to which children participate in outdoor play activities. To achieve the objective, three teachers were asked to indicate in the questionnaire the number of children participating in outdoor play activities and the kind of outdoor play activities that children participate in. They were also required to indicate the duration and frequency that children participate in the outdoor play activities. This was then corroborated with the observation schedule that the researcher and teachers used when children were participating in the outdoor play activities. Here, the researcher analysed data based on the total number of children participating in various outdoor activities as shown in Table 4.3.

*Table 4.3 Playground Facilities and Children Participation*

<b>Outdoor Play Activities by Children</b>	<b>Frequency</b>	<b>Percent</b>
Swinging	135	27.1%
Sliding	151	30.3%
Balancing	107	21.4%
Climbing	86	17.2%
Crawling	10	2.0%
Propelling	10	2.0%
<b>Total</b>	<b>499</b>	<b>100%</b>

From Table 4.3, it is evident that one in every three children preferred sliding, slightly over a quarter the children preferred swinging, while over a fifth preferred balancing, followed by climbing which was preferred by almost a fifth. The least outdoor play activities that only a handful child participated in were crawling and propelling. The study revealed that a preference on a particular outdoor play activity was necessitated by the availability of the type of playground facilities in a school. Previous studies done indicate that outdoor play is important for all age-groups especially early childhood. Therefore, it can be concluded that even though the availability of playground facilities a school had greatly influenced the level of children participation in outdoor play activities, the level of participation did not decrease if a school had lesser and/or fewer variety of playground facilities.

On how often children participate in outdoor play activities and the duration taken while playing during the outdoor play activities and the findings were revealed respectively in Table 4.4 and 4.5 below:

***Table 4.4 Frequency of Outdoor Play Activities***

	<b>Frequency</b>	<b>Percent</b>
Daily	7	33%
Twice a week	6	29%
Three times a week	6	29%
Weekly	2	9%
Monthly	0	0%
<b>Total</b>	<b>21</b>	<b>100%</b>

The study found that a third of schools have a schedule whereby children participated in outdoor play activities daily, while nearly a third of schools had a schedule of twice a week or thrice a week of outdoor play activities by children. Only a tenth of the schools had a weekly schedule for outdoor play activities. The study also revealed that almost half of schools had either a 25 minute or 30 minute duration of outdoor play activities by children, while only almost a quarter of the schools in the study had a 20 minute duration. This implies that the minimum duration allocated for outdoor play activities in preschools from Mvita Sub County was 20 minutes, while the maximum duration was 30 minutes as shown in table 4.5 below;

#### ***4.5 Duration Allocated by Schools for Outdoor Play Activities***

<b>Duration of outdoor play activities</b>	<b>Frequency</b>	<b>Percent</b>
10 minutes	0	0%
15 minutes	0	0%
20 minutes	5	24%
25 minutes	8	38%
30 minutes	8	38%
<b>Total</b>	<b>21</b>	<b>100%</b>

#### **4.4 Types of Playground Facilities**

The second objective of this study was to identify the types of playground facilities available in preschools. Data which were collected from the observations made was organized in terms of types of play facilities found in the schools sampled and the

state of the playground facilities. Playground facilities offer opportunities for imaginative, physical and cognitive development. Commonly found playground facilities include climbing structures, swings, slides and spring riders. The Researcher analysed the data which were collected with the help of observation schedules as shown in Table 4.6.

***Table 4.6 Types of Playground Facilities Available in School***

	<b>Frequency</b>	<b>Percent</b>
Swings	17	27%
Slides	17	27%
See saw	15	23%
Climbing Frames	13	20%
Playhouse	1	2%
Merry-go-round	1	2%

From the table it is evident that slightly over a quarter of the schools sampled had swings and/or slides. Early Headstart National Resource Centre (2013), that states that swings provide children with firsthand knowledge and experience of cause and effect and understanding spatial learning such as up and down, back and forth. They also get a chance to see the world from a new perspective. Almost a quarter had see-saw, whereas a fifth had climbing frames. Only a minority had playhouse or merry-go-round. From the finding, it is clear that none of the schools sampled had more than one of each type of playground facilities. The findings agree with previous studies

that found playground facilities to include climbing structures, swings, slides and spring riders (Karim & Paul, 2014).

Data was also collected to find out the condition that each type of playground facilities using the observation schedule. This was to assess the attractiveness, suitability, barriers installed, shades installed, safe surfacing and variety of facilities, and data analysed as shown Table 4.7.

***Table 4.7: State of Playground Facilities***

	<b>Frequency</b>	<b>Percent</b>
Attractiveness	17	81%
Suitability	20	95%
Barriers installed	18	86%
Shade installed	8	38%
Safe Surfacing	9	43%
Variety of Facilities	13	62%

The study revealed that most schools have maintained good state of their playground facilities, with almost all having suitable playground facilities, almost nine tenth having presence of barriers on their playground facilities, and slightly over a quarter having attractive playground facilities. Nearly two thirds had variety of playground facilities. Just below a half of the schools had presence of a shade and almost a half had safe surfacing on their playground facilities.

#### **4.5 Safety of Playground Facilities**

The third objective sought to examine the safety of playground facilities on children's participation in outdoor play activities. Here the Researcher analysed data collected through observation schedule and recorded findings in terms of number of schools with safety checks on playground facilities a school had. Teachers were also interviewed in reference to supervision of children during outdoor play activities and the maintenance of playground facilities.

##### **4.5.1 Safety Checks of Playground Facilities**

During the research study, the researcher examined playground facilities using a checklist of safety checks that each playground facilities ought to have and analysed the findings as shown in Table 4.8.

*Table 4.8 Safety of Playground Facilities*

<b>Safety Checks</b>	<b>Frequency</b>	<b>Percent</b>
Broken equipment such as loose bolts, missing end caps	1	2%
Cracks	5	12%
Broken glass and other trash	0	0%
Loose anchoring	4	9%
Insects damage	2	5%
Displaced loose-fill surfacing	2	5%
Holes, flakes, and/or buckling of unitary surfacing	2	5%
User modification (such as ropes tied to parts or equipment rearranged)	1	2%
Vandalism	0	0%
Worn out parts – loose parts	1	2%
Damaged	2	5%
Missing parts	8	19%
Rusted or corroded metals	7	16%
Rot	7	16%

The findings revealed that all schools sampled had safety issues on their playground facilities, whereby almost a fifth playground facilities had missing parts, just under a fifth had playground facilities with either rusted or corroded metals, or rot, while slightly more than a tenth had playground facilities with cracks, while almost a tenth had loose anchoring on their playground facilities. A few of the schools sampled had

their playground facilities either damaged, with holes, flakes and/or buckling of unitary surfacing, insects damage, or displaced loose-fill surface. Only a small number of the schools sampled had either broken playground facilities, playground facilities with user modification, or worn out parts. None of the schools sampled had experienced vandalism on their playground facilities. It can therefore be concluded that out of the 21 schools sampled, 17 schools (81%), which represents slight more than three quarters had aspects of unsafe playground facilities.

#### **4.5.2 Maintenance of Playground Facilities**

Safety measures of playground facilities go hand in hand with regular maintenance. The researcher therefore sought to know who was responsible for the maintenance of playground facilities and space in each school and data analysed was shown in table 4.9.

*Table 4.9 Maintenance of Playground Facilities*

<b>Responsibility</b>	<b>Frequency</b>	<b>Percent</b>
Teacher	0	0%
Care Taker	6	29%
School Management	7	33%
Others	8	38%

In the finding, it is evident that none of the teachers interviewed had any responsibility in the maintenance of the playground facilities. Just over a quarter of the schools had assigned the maintenance responsibility to the caretaker, while a third

had the School Management taking responsibility for maintenance. Almost a half of teachers interviewed mentioned that there was someone responsible for the maintenance of playground facilities but did not specify who in particular.

#### **4.5.3 Supervision of Children during Outdoor Play Activities**

The main role of a playground supervisor is to ensure the safety and welfare of children. A supervisor's approach on playground supervision may influence children's physical safety and opportunities to develop emotionally, socially, cognitively and physically. To find out whether supervision of children during outdoor play activities enhances their safety, the respondents were asked if they supervise children during their outdoor play activities and how they do it.

Teachers participating in the study mentioned that they were undertaking supervision of children during their outdoor play activities. Below is a list of their supervisory roles as stated by them;

- Turn-taking with children among teachers
- Making sure they don't hurt themselves
- Grouping then assigning a group leader
- Keeping a close watch
- Doing rounds as they play & play together with them
- Engaging in the activities with them
- Guiding them as they play
- Ensuring that they take turns in play equipment

These findings agree with previous studies that emphasized on the roles of adult in guiding children while playing. According to Big Toys (2017), the main role of a playground supervisor is to ensure the safety and welfare of children.

#### **4.6 Age Appropriate Playground Facilities and Children Participation**

The fourth objective of the study sought to determine the influence of age appropriate play facilities on children's participation in outdoor play activities. The Researcher sought to find out teachers' perception on how age-appropriate playground facilities promote children's participation in outdoor play activities by asking them to either agree or disagree on various aspects of playground facilities.

Over 75% of the teachers highly agreed that "shade on playground facilities enhances participation of children in outdoor play activities", while slightly more than half of the respondents highly agreed that "age appropriate playground facilities enhance participation in outdoor play activities". All of teachers agreed that "a variety of playground facilities enhance participation in outdoor play", and that "barriers on raised playground facilities enhances children participation in outdoor play activities". It was followed by the aspect that "attractiveness of the playground facilities enhances participation in outdoor play activities". Almost all of the teachers indicated that they agreed with that aspect of playground facilities while just about a tenth highly agreed. Finding also shows that none of the teachers interviewed disagreed or were undecided when giving their perception about aspects of playground facilities in relation to age appropriateness of children participation on outdoor play activities.

When teachers were asked whether they prepare children before they go for outdoor play activities, all stated that they do and gave varied preparatory tasks that included:-

- Trying out a skill before they do it outside

- By performing the outdoor activities
- Reminding them to be in sports shoes
- Ensure they're in correct clothing
- Ensure that the playground is safe for children
- Practice a skill before they try
- Give them instructions regarding the activities

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This Chapter contains summary of the major findings of this research, conclusions based on the findings and recommendations arising from the same findings.

#### **5.2 Summary of the Findings**

The study investigated Playground Facilities Factors and Preschool Children's Participation in outdoor play activities in Mombasa County.

The first objective of the study was to establish the extent to which children participate in outdoor play activities using playground facilities. The findings revealed that children participation in outdoor play activities is not determined by the availability, type or number of playground facilities a school had. The study also revealed that some children who were not participating in outdoor play activities opted to play hide and seek game, ball games, running and not necessarily because the school did not have enough playground facilities. For some school with few playground facilities, children avoided playing for fear of being hurt while jostling and scrambling for the limited playground facilities. This is in tandem with previous studies that indicate that outdoor play activities are important for all age groups especially early childhood.

The second objective of the study sought to identify the type of playground facilities in preschools and how they promote children's participation in outdoor play activities. The study findings show that even though most schools had swings and slides, but few or none of the other playground facilities, children would use the available

playground facilities with no preference to a particular type. The study also revealed that most schools had installed suitable playground facilities that had a presence of barriers and were attractive. However, most schools did not consider safe surfacing or the presence of a shade on their playground facilities as important.

The third objective of the study sought to examine the safety of playground facilities on children participation in outdoor play activities. The findings revealed that most schools sampled had their playground facilities not meeting safety requirements. Further findings revealed that none of the teachers were involved in the maintenance of the playground facilities, with majority of schools abdicating maintenance responsibility to the caretakers and the school management, while in some schools, there was no clear indication of who was in charge of maintenance. The study also revealed that even though almost all of teachers supervised children while playing, they did not have a clear understanding of their roles and none ensured that playground facilities were safe before the children started playing. The study however did not find any connection between children participation in outdoor play activities and safety of the playground facilities.

The fourth objective of the study sought to determine the influence of age-appropriate playground facilities on children's participation in outdoor play activities. The findings revealed that aspects of playground facilities, including age appropriate playground facilities highly promote children participation in outdoor play activities.

### **5.3 Implications of the Study**

Level of participation of children in outdoor play activities were found to be high whether a school had adequate number or type of playground facilities. This implies that children would still participate in outdoor play activities whether the playground

facilities were enough or not. This is because children would engage in other outdoor play activities that were not reliant on playground facilities like playing with a ball, hide and seek or running.

The type of playground facilities that a school has installed would greatly influence the kind of outdoor play activities that the children would engage in. For example, schools that had swings and slides also had high percentage of children swinging or sliding. This implies that the kind of outdoor play activities children would be involved in would be determined by the type of playground facilities a school has. Therefore, there is need for preschools to install a wide variety of playground facilities to promote versatility in the outdoor play activities.

Safety measures such as regular maintenance of the playground facilities were full responsibility of either the school management or the caretaker in most schools, while the teachers had no role in ensuring that the playground facilities were safe. This implies that playground facilities would not have a various lack of safety checks observed in the study if teachers took active role in ensuring that playground facilities were regularly maintained. Therefore, school management should delegate some of their roles in the provision and maintenance of playground facilities to preschool teachers.

#### **5.4 Conclusion**

The availability of playground facilities does not influence children's participation in outdoor play activities. This implies that preschool children would still participate in outdoor play activities whether the playground facilities in their school are few or adequate as long as time and space is allocated for them. We can therefore conclude that all schools sampled had available playground facilities, a defined schedule and

time allocation for outdoor play activities – factors that had greatly enhanced children participation in outdoor play activities. Further, preschool children would participate in outdoor play activities without any preference to the type or state of the playground facilities. It can therefore be concluded that the relationship between type and/or state of playground facilities and level of children’s participation in outdoor play activities was however found not to be significant.

Safety issues on the playground facilities observed in most schools is not a deterrent to children participation in outdoor play activities. However, adults should ensure that all safety checks on the playground facilities are regularly maintained. Since majority of teachers highly agreed that age-appropriate playground facilities promote children participation in outdoor play activities, it can be concluded that playground facilities in most schools are age-appropriate.

## **5.5 Recommendations**

Based on the findings of this study, the researcher recommends the following:

### **5.5.1 Recommendations for the Preschool Teachers**

The finding revealed that the availability, type and state of playground facilities do not influence children’s level of participation in outdoor play activities. However, schools should adequately provide a wide variety of playground facilities in suitable state and fully involve teachers in the provision and maintenance of the same. Since the finding also show that teachers don’t play a significant role in the provision and maintenance of the playground facilities, there is need for preschool teachers to attend seminars, workshops and refresher courses to fully understand the role they can play in the provision and maintenance of playground facilities as well as supervision of

children during outdoor play activities with an aim of promoting participation by preschool children.

### **5.5.2 Recommendations for the County Government Department of Education**

Findings for the study revealed that most schools had playground facilities that did not meet recommended safety standards. It is therefore recommended that routine inspections are done by the County Government Department of Education to ensure that preschools have safe playground facilities to ensure that children's safety during outdoor play activities is guaranteed.

### **5.5.3 Recommendations for other Agencies**

Findings from this study revealed that most schools did not have adequate number and variety of playground facilities. Only one school had adequate number of playground facilities. Therefore, there is need for Non-Governmental Organisations (NGOs) to support in the provision and installation of playground facilities. Schools should map out NGOs in their area and approach them for funding. This will enable schools to have adequate number of playground facilities proportionate to the population in the school.

## **5.6 Suggestions for Future Research**

The study recommends that further research should be done on:

1. Why preschools do not employ male teachers. This is because in this study, 100% of preschools from the 21 sampled schools were female. The findings from further research may also reveal teachers' roles in the provision and maintenance of playground facilities.
2. Study to find out reasons why some children prefer other forms of outdoor play activities that do not involve playground facilities since findings from this

study revealed that not all children were participating in outdoor play activities.

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## **APPENDIX I: Questionnaire for the Preschool Teachers**

The purpose of this study is to examine the role of playground facilities on preschool children's participation in outdoor activities in Mvita Sub County, Mombasa County. You are not compelled to participate in this survey, but your willingness to participate would be greatly appreciated and beneficial. The researcher is conducting this survey as part of a research project in partial fulfillment of the requirements for the degree of Masters of Education in Early Childhood Studies. Kindly note that the information collected will be used only for the purpose of the study.

### **Section A: Demographic Information of person completing this survey:**

Please mark the appropriate response to the following questions.

1. What is your gender?

Female

Male

2. What is your age?

20 – 29

30 – 39

40 – 49

50 – 59

60+

Others (please state):

3. How many years of experience do you have teaching?

0 – 3

4 – 10

10 – 15

15 – 20

20+

**Section B**

1) Number of children in your school? .....

2) Indicate the types of play equipment found in your school

.....

3) Which outdoor play activities do most children like engaging in?

.....

4a) Do all children in your school participate in outdoor play activities?

4b) If No: Why

.....

.....

5) Who provides the school with the playground facilities for outdoor play activities?

.....

.....

6) How often do you take the children out for outdoor play?

Daily

Twice a week

Three times a week

Weekly

Monthly

7) Do you prepare children for outdoor play activities?

Yes

No

If Yes, how do you prepare the children?

.....

8).Do you supervises children during their outdoor play activities?

Yes

No

If Yes, how do you do it?

.....

9) How many breaks do the children have in a day?

1

2

3

10) Do you allow children out for outdoor play during break time?

11) Do you have P.E lessons?

If Yes, where do they have their P.E lessons

.....

12) How long do the children take when they go out for play in the playgrounds?

10 minutes

15 minutes

20 minutes

25 minutes

30 minutes

13) How often do the children use the following playground facilities? Enter data by indicating the number of children interacting with each of the equipment during outdoor play.

<b>Equipment</b>	<b>No. of children using equipment</b>
Swing	
Slides	
Climbing frames	
See saw	
Others	

14) Who does maintenance of playground facilities and space?

Teacher

Care taker

Others

15) What do you do as children engage in outdoor play activities?

.....

.....

## **APPENDIX II: Observation Schedule**

An observation schedule on the playground facilities factors and preschool children's participation in outdoor activities in Mvita sub county, Mombasa County. The researcher is conducting this survey as part of a research project in partial fulfillment of the requirements for the degree of Masters of Education in Early Childhood Studies. Kindly note that the information collected will be used only for the purpose of the study.

### **PART A: SCHOOL DETAILS**

1) Type of school

Private

Public

02) Availability of playground facilities. To indicate (X) for presence of playground facility and (-) for absence of facility.

<b>Type of Facility</b>	<b>Availability of Facility</b>
Swings	
Slides	
See saw	
Climbing frames	
Others	

**Table 3: Types of equipment available**

03). Number of playground facilities available in the preschool playground.

<b>Types of facility</b>	<b>No. of facility</b>
Swings	
Slide	
See saw	
Climbers	
Others	

**Table 4: Number of facility available**

04) Number of children engaged in outdoor play activity?

<b>Equipment</b>	<b>Activity</b>	<b>No. of children</b>
Swing	Swinging	
Slides	Sliding	
See saw	Balancing	
Climbers	Climbing	
Others		

**Table 5: Number of children engaged in outdoor activities**

05) State of playground facilities

To tick (X) where applicable

<b>State of equipment</b>	<b>Present</b>	<b>Absent</b>
Attractiveness		
Suitability		
Presence of barrier		
Presence of a shade		
Safe surfacing		
Variety of equipment		

6) How do playground facilities promote children's participation in outdoor play activities?

**HA – Highly Agree, A – Agree, U- Undecided, DA – Disagree, HD – Highly Disagree**

To tick (**X**) where applicable

	<b>HA</b>	<b>A</b>	<b>U</b>	<b>DA</b>	<b>HD</b>
Availability of play facilities enhances participation in outdoor play					
A variety of playground facilities enhance participation in outdoor play					
Underneath playground facilities surfacing and participation in outdoor play activities					

Shade on playground facilities enhances participation of children in outdoor activities.					
Barriers on raised playground facilities enhances children participation in outdoor play activities					
Teacher's supervision of children enhances participation of children in outdoor play activities					
Age appropriate playground facilities enhance participation in outdoor play activities.					
Attractiveness of the playground facilities enhances participation in outdoor play activities.					

07) Safety of playground facilities

To tick (X) to show presence or absence of the safety checks

<b>Routine Inspection and Maintenance</b>	<b>Present</b>	<b>Absent</b>
Broken equipment such as loose bolts, missing end caps,		
Cracks		
Broken glass & other trash		
Loose anchoring		
Hazardous or dangerous debris		
Insect damage		
Displaced loose-fill surfacing		
Holes, flakes, and/or buckling of unitary surfacing		
User modifications (such as ropes tied to parts or equipment rearranged)		

08)	Vandalism		
	Worn out parts Loose parts		
	Damaged		
	Missing parts		
	Missing parts		
	Rusted or corroded metals		
	Rot		

Maintenance and inspection of fixed playground equipment.

To tick (X) where applicable

	<b>Always</b>	<b>Most of the time</b>	<b>Some times</b>	<b>Rarely</b>	<b>Never</b>
Daily					
Weekly					
Monthly					
Yearly					

## APPENDIX III: School Approval of Research Proposal Letter



KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [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. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 27<sup>th</sup> February, 2018

TO: Wijenje Phyllis Asaji  
C/o Early Childhood Studies Dept.

REF: E55/MSA/CE/25500/2013

**SUBJECT: APPROVAL OF RESEARCH PROPOSAL**

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 10<sup>th</sup> January, 2018 entitled "The Role of Playground Facilities on Preschool Children's Participation in Outdoor Play Activities in Mombasa County".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and 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.

  
**ELJAH MUTUA**  
**FOR: DEAN, GRADUATE SCHOOL**

C.c. Chairman, Department of Early Childhood Studies

Supervisors:


1. Dr. Esther Waithaka  
C/o Department of Early Childhood Studies  
Kenyatta University

EM/2m

**APPENDIX IV: NACOSTI Permit & Authorization Letter**


**CONDITIONS**

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.



**REPUBLIC OF KENYA**

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**National Commission for Science,  
Technology and Innovation**

**RESEARCH CLEARANCE  
PERMIT**

**Serial No.A 18048**

**CONDITIONS: see back page**


**THIS IS TO CERTIFY THAT:  
MS. PHYLLIS ASAJI WIJENJE  
of KENYATTA UNIVERSITY, 0-80100  
MOMBASA, has been permitted to  
conduct research in Mombasa County**

**Permit No : NACOSTI/P/18/74256/21874  
Date Of Issue : 21st March, 2018  
Fee Received :Ksh 1000**

**on the topic: THE ROLE OF  
PLAYGROUND FACILITIES ON  
PRESCHOOL CHILDREN'S  
PARTICIPATION IN OUTDOOR PLAY  
ACTIVITIES IN MOMBASA COUNTY**



**for the period ending:  
20th March, 2019**

  
.....  
**Applicant's  
Signature**

  
.....  
**Director General  
National Commission for Science,  
Technology & Innovation**



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

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NACOSTI, Upper Kabete  
Off Waiyaki Way  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/74256/21874**

Date: **21<sup>st</sup> March, 2018**

Phyllis Asaji Wijenje  
Kenyatta University  
P.O Box 43844-00100  
**NAIROBI.**

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *“The role of playground facilities on preschool children’s participation in outdoor play activities in Mombasa County,”* I am pleased to inform you that you have been authorized to undertake research in **Mombasa County** for the period ending **20<sup>th</sup> March, 2019.**

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

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

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

Copy to:

The County Commissioner  
Mombasa County.

The County Director of Education  
Mombasa County.

**APPENDIX V: Map of Mvita Sub County**

