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Influence of School Playground Safety on Pre-School Children Participation in Outdoor Activities in Ekerenyo Division, Nyamira County, Kenya

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Abstract

In Kenya, pre-school playground safety has not been given much attention despite being a critical area of concern in child growth and development. This state can be linked to lack of resources, perceived low priority and negative attitude about children's play or deferral of the activity. The main purpose of the study was to examine influence of playground safety on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County. The study specifically aimed at establishing the influence of playground location, investigate the influence of status of the playground and assess the influence of playing equipment conditions on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County. The study adopted descriptive survey and correlational research designs. The study targeted 150 preschool teachers, and through census sampling technique all the 150 teachers were sampled. However 137 preschool teachers filled and returned the questionnaires. Analyzed data was presented in frequencies and percentages and summarized in tables and figures. The study three independent variables contributed 46.2 % of variance in learners' participation in creative activities ($R^2 = 0.462$). Condition of the school plat ground equipment had the most significant influence on pre-school children participation in outdoor activities in Ekerenyo division ($\beta = 0.870$, $t = 4.46$, $p < 0.05$), followed by the status of the playground ($\beta = 0.720$, $t = 2.187$, $p < 0.05$), while location of the pay ground had the least influence ($\beta = 0.640$, $t = 2.11$, $p < 0.05$). The study recommended that the school community should ensure that the bushes around the playground are cleared and the risky areas such as swamps are restricted from children reach. The findings of this study may contribute much knowledge in the field of education and more especially on pre-school children safety at the playground in Kenya.

Key Words: Preschool children, Preschool playground safety, Participation in outdoor activities

1. Introduction

The component of preschool curriculum that entails play aims at maximizing the social-emotional, motor, linguistic and cognitive development of children and to enable them to gain self-care skills and to be ready for primary school, as well (Dere, 2019; Terrón, Queralt, Molina & Martínez, 2017). In concurrence, Gil-Madrona, Honrubias, Rodenas and Llanos (2018) posit that play fosters the physical, emotional, and intellectual development of the child, giving special relevance to knowledge, appreciation, and control of their own bodies. Injury prevention plays a key role in keeping children safe, but emerging research suggests that imposing too many restrictions on children's outdoor risky play hinders their development. The current generation holds that children's diminishing engagement in outdoor play is influenced by parental and

societal concerns (Sheridan, 2013). It is necessary to allow children to play in a safe environment as it is a necessary ingredient for healthy-child development. Thus, there is need to optimal strategies for keeping children as safe as necessary, while in the playground.

Children use the playground as a learning environment with corresponding behavioral consequences that enable them to digest both pleasant and unpleasant experiences by freely using their senses of taste, smell, touch, sight and hearing. Consequently, children start to take control of their feelings in relation to their experiences (Olgan & Kahriman-Ozturk, 2011). School playgrounds are the designated outdoor areas located in the school where children play or participate in sports and games with or without stationary and manipulative equipment (Johnson, Christie & Wardle, 2015). According to Moore (2012), injury prevention plays a key role in promoting children's safety, which is considered to involve keeping children free from the occurrence or risk of injury while in the playground. In essence, limitations on children's play opportunities may be fundamentally hindering their health and well-being. School playgrounds give children a chance to build active, healthy bodies and develop their decision-making, negotiating, and motor skills (Hyndman, Bredon & Telford, 2015). Becoming more aware of the facilities for and barriers to children's active play seems vital for effective school playground interventions that encourage and sustain these developmental benefits (Kriemler et al., 2011). In addition, active play helps children hone their social and cognitive skills through the informal curriculum of school playground activities (Pellegrini & Holmes, 2016; Hyndman, Amanda, Caroline & Amanda, 2012).

Globally, a playground safety has in the recent years had serious international attention of early childhood professionals and officials especially in the United States of America (USA), Canada, Europe, Australasian Pacific Rim and Argentina (Macharia, 2012). These countries have developed guidelines and standards for public playgrounds from which the integration of safety standards in design, installation and maintenance of preschool playground space, equipment and surfacing depths of materials beneath and around the play equipment can be inferred. The report further revealed that the USA, for instance, has developed the American Society for Testing and Materials (ASTM) and the US Consumer Product Safety Commission (CPSC) guidelines. Additionally, in 1990's the Canadian Standards Association developed guidelines for public playgrounds.

In Africa, the conditions of the playgrounds are not adequately favorable to encourage pre-school children outdoor activities. For instance, according to the World Health Organization (2014), between 16-40% of children aged 6 to12 years old in Africa are affected by dental trauma due to unsafe playgrounds. Trauma may affect hard dental tissues or tooth supporting tissues which in turn could affect the occlusion, functions, aesthetics and emotions of children when there is dental fracture, displacement or avulsed teeth (Cortes, Marcenes & Sheiham, 2012; Adekoya – Sofowora, Bruimah, & Ogunbodede, 2014). Some of the schools with better supervision of children during play; with presence of teachers in playgrounds and an adequate staff-to-student ratio have reported lower incidence of dental injuries (Murray, 2012; Bhayya & Shyagali, 2013; Marcenes, Caglar, Kuvvetli & Sandalli, 2013).

A survey conducted by Eigbobo, Nzomiwu, Amobi, and Etim (2014) in Nigeria on standard of playgrounds and safety measures found that majority of schools had playground yet guideline given by the Ministry of Education was not observed. One of the objectives of a healthful school environment is to provide safe and clean recreational facilities in schools such as playgrounds (Federal Ministry, 2014). According to the guideline, the school playground is expected to be safe but it was observed that the sizes of all the school playgrounds were below the recommended standard in the school health policy. In this study, 81.7% schools had playgrounds out of which 56.5% were public schools. Also, above two thirds (69.7%) of the schools did not have lush fields for play; in Lagos and Enugu most of the playground surfaces were bare earth. However, the playground surfaces in Port Harcourt schools were mostly (87.2%) of grass.

Kenya is a signatory to the various international frameworks that uphold the inalienable rights of the child to safe and secure school environments. The legislation of the rights on young children's safety can be inferred from the country's Constitution (2010) Bill of Rights (Cap 4) (Republic of Kenya, 2010). The government of Kenya has also translated and enacted the recommendations of the global frameworks into the Children's Act No. 8 of 2001 as a legal instrument to safeguard and promote the rights and welfare of children in Kenya. Article 23(2) (a) and (b) of the Children's Act, for instance, emphasizes the critical importance of safe and secure environments to enhance participation in learning activities that include outdoor play. For instance, section 2(a) insists of the duty to maintain the child and in particular to provide him with adequate diet, shelter and clothing, and education and guidance. On the other hand Section 2(b) expresses on the duty to protect the child from neglect, discrimination and abuse (Republic of Kenya, 2001).

In Ekerenyo Division, Nyamira County, playgrounds within the public and private pre-school are characterized by inadequate play spaces, inadequate or poorly designed and maintained equipment and surfaces that restrict children's spontaneous play. These contribute to minor injuries among children, lack of interest to take part in outdoor activities, and tensions over long grasses and bushes that could be inhabitants of snakes among others. Therefore, there is need to ensure the safety of the playground so as to encourage more participation that is a catalyst to child's health development and mental growth.

In Kenya, pre-school playground safety has not been given much attention despite being a critical area of concern in child growth and development. The play spaces should contain adequate age and developmentally appropriate equipment and materials, safe play area surfaces and servicing and maintenance of play materials once in a term. However, government policy documents on school safety make no direct mention of pre-school safety and such information has therefore to be inferred from Early Childhood Development Service Standards Guidelines for Kenya (ECD-SSGK, 2009). The ECD institutions more especially in rural areas like Ekerenyo Division in Nyamira County, are characterized by poor physical conditions showing neglected maintenance. This state can be linked to lack of resources, perceived low priority and negative attitude about children's play or deferral of the activity.

A handful of studies have revealed that learning environments are made up of physical, psychosocial and service provision elements (Mwamba, 2013; Muthoni, 2013; OECD, 2013). A good playground is an indicator of physical learning environment. Similarly, Fuller (2009) asserts that learning environment must nurture children's capacity to engage deeply in individual and group activities. However, Abiero (2013) assert that most pre-school education programs suffer from poor quality services, reflected in public pre-schools in Ekerenyo Division in Nyamira County. Thus, it is against this background that this study sought to investigate the influence of playground safety on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County.

1.2 Objectives of the Study

The study was guided by the following objectives:
a. To establish the influence of playground location on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County;
b. To investigate the influence of the status of the playground on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County;
c. To assess the influence of playing equipment conditions on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County.

1.3 The Study Hypotheses

The following null hypotheses were formulated:
H_{O1}: There is no statistically significant influence between playground location and pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County;
H_{O2}: There is no statistically significant influence between the status of the playground and pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County;
H_{O3}: There is no statistically significant influence between playing equipment condition and pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County.

2. Methodology

This study adopted descriptive survey and correlational research designs, so as to enable the researcher accomplish the study objectives. Descriptive survey design involves asking a sample population questions about a particular issue to explore their opinions, attitudes and knowledge about the issue in question (Fraenkel, Wallen & Hyun, 2012). Correlation research design uses inferences to explain relationships among variables systematically and emphatically without direct control of independent variables (Orodho, 2012). This hybrid design was found appropriate in this study since apart from seeking opinion, attitude and knowledge about the issue at hand, the study also sought to establish the influence of independent variables on the dependent variable. The study targeted all the 150 preschool teachers in Ekerenyo division. Further, the study sampled all the teachers through census technique and where 137 filled and returned questionnaires. Data were collected through teachers' semi-structured questionnaire. Three experts in the field of research were consulted in order to verify whether the instruments were valid or not. These included the two research supervisors and one external research

consultant in the field of education. Reliability of the preschool teachers' questionnaire was ascertained by computing Cronbach's alpha. A coefficient of 0.821 was obtained showing that the questionnaire was appropriate. Respondents were assured of anonymity and that the research was solely meant for academic purposes.

3. Results

3.1 Background Information of the Respondents

3.2 Influence of Playground Location on Pre-School Children Participation in Outdoor Activities in Ekerenyo Division

To establish the influence of playground location on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County, a set of statements in form of a Likert scale were posed to the respondents to indicate the extent to which they agreed or disagreed with them. The questionnaire responses were coded such that 5-Strongly Agree (SA); 4-Agree (A); 3-Neutral (N); 2-Disagree (D); 1-Strongly Disagree (SD). Table 1 shows the responses of the pre-school teachers on various items of playground location and pre-school children participation in outdoor activities.

Table 1
Teachers' Responses on Playground Location

Statement	SA	A	N	D	SD
Location of the schools' playground plays a significant role on pre-school children participation in outdoor activities;	16%	48%	_	22%	14%
The number of children using the playgrounds and the number of children actively playing is larger in playgrounds that are near the school;	52%	40%	4%	4%	_
Children's perspectives on playground use is affected by the distance of the playground from the school;	34%	54%	_	6%	6%
Children as primary users of the playground are able to identify location barriers for active play that are easily overlooked, unknown or differently perceived by adults;	27%	37%	6%	12%	18%
Children perceive the playgrounds that are far from the learning area as insecure leading their reduced participation in the outdoor activities;	42%	56%	_	2%	_
There is high children participation in outdoor activities in the playgrounds that are easily accessible;	18%	64%	4%	8%	6%

N=137

In Table 1, nearly two thirds (64%) of the pre-school teachers agreed that location of the schools' playground plays a significant role on pre-school children participation in outdoor activities while slightly more than a third (36%) of them felt otherwise. The number of children using the playgrounds and the number of children actively playing is larger in playgrounds that are near the school. This was supported by nearly all (92%) pre-school teachers as another vast majority

(88%) of them pointed out that, children's perspectives on playground use is affected by the distance of the playground from the school. Nearly two thirds (64%) of the pre-school teachers were in opinion that children as primary users of the playground are able to identify location barriers for active play that are easily overlooked, unknown or differently perceived by adults. It was also found out that almost all (98%) of the pre-school teachers that took part in the study maintained that children perceive the playgrounds that are far from the learning area as insecure leading their reduced participation in the outdoor activities. Further, when the respondents were asked indicated whether there is high children participation in outdoor activities in the playgrounds that are easily accessible, an overwhelming majority (82%) of them were in agreement, only 14% of them were in opposition of the statement. Therefore, the pre-school teachers supported that playground location influences pre-school children participation in outdoor activities.

3.3 Status of the Playground and Pre-School Children Participation in Outdoor Activities

To investigate the influence of the status of the playground on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County teachers were asked to give their mind on how the status of the playground affected pre-school children participation in the out door activities. Table 1 shows the responses of the pre-school teachers on various items of playground location and pre-school children participation in outdoor activities.

Table 2
Teachers' Responses on Status of Playground

Statement	SA	A	N	D	SD
Presence of natural features such as bushes, grass, trees in the playground can discourage preschool children participation in outdoor activities;	30%	38%	_	22%	10%
There is need for awareness of the need for natural features settings that should precede school or community playground initiatives so as to encourage preschool children participation in the outdoor activities;	24%	53%	6%	10%	7%
Preschool children have been denied the right to play in a healthy, safe or secure and nurturing environment in Ekerenyo division;	12%	20%	10%	42%	16%
The playgrounds are large enough for the number of children in the pre-school to play and run around safely in Ekerenyo division;	28%	54%	_	12%	6%
Too large or poorly designed playgrounds lead to reduced attention span, more supervision, noise, and confusion among preschool children;	10%	14%	12%	56%	10%
School playgrounds in Ekerenyo division are marked to separate play areas into activity and equipment-based areas;	6%	32%	_	47%	15%
Major playground reconstruction/maintenance affects the physical activity among preschool children in Ekerenyo;	24%	64%	_	7%	2%
The topography of the playground influences preschool's children physical activities;	28%	44%	8%	12%	8%

N=137

As summarized in Table 2, slightly more than two thirds (68%) of the pre-school teachers pointed out that presence of natural features such as bushes, grass, trees in the playground can discourage preschool children participation in outdoor activities. As well another majority (77%) of the teachers stated that there is need for awareness creation on the need for natural features settings that should precede school or community playground initiatives so as to encourage preschool children participation in the outdoor activities. However, more than half (58%) of the respondents were affirmative that preschool children have been denied the right to play in a healthy, safe or secure and nurturing environment in Ekerenyo division while nearly a third (32%) of them felt otherwise. A vast majority (82%) of the pre-school teachers were in consensus that the playgrounds are large enough for the number of children in the pre-school to play and run around safely in Ekerenyo division.

On whether too large or poorly designed playgrounds lead to reduced attention span, more supervision, noise, and confusion among preschool children, two thirds (66%) of the study respondents were in agreement. Although more than a third (38%) of the pre-school teachers stated that school playgrounds in Ekerenyo division are marked to separate play areas into activity and equipment-based areas, nearly two thirds (62%) of them disagreed. An overwhelming majority (88%) of the pre-school teachers were in opinion that major playground maintenance affects the physical activity among preschool children in Ekerenyo. Another more than two thirds (72%) of them were affirmative that the topography of the playground influences preschool's children physical activities. Thus, this implies that the status of the playground has an influence on pre-school children participation in outdoor activities.

3.4 Condition of the Play Equipment

The third objective of the study was to assess the influence of playing equipment conditions on pre-school children participation in outdoor activities in Ekerenyo division, in Nyamira County. Table 3 shows the responses of the pre-school teacher on various items of condition of the play equipment.

Table 3
Teachers' Response on Condition of the Play Equipment

Statement	SA	A	N	D	SD
Preschool children enjoys more on loose sports equipment like skipping ropes playing balls than fixed playground equipment;	16%	42%	6%	24%	12%
Fixed equipment, sporting equipment, and high intensity activities like sprinting facilitate children's active play in the playground;	10%	25%	_	55%	10%
Children's playground composed of age appropriate equipment scaled to their sizes encourages the preschool children participation in in outdoor activities;	24%	62%	_	12%	2%
Children always feel safe when the play equipment and materials are appropriate and able to challenge their physical and intellectual capacities to meet their individual needs;	28%	54%	4%	9%	5%
The arrangement of the equipment is crucial to enhancing children's safety in the playground;	34%	52%	2%	10%	2%
Children often perceive the built environment such as sporting facilities, adventurous equipment, and fixed playground equipment as an encouragement to active play on school playgrounds;	19%	53%	_	12%	16%

N = 137

As indicated in Table 3, more than half (58%) of the pre-school teachers agreed that preschool children enjoys more on loose sports equipment like skipping ropes playing balls than fixed playground equipment. Only 26% of them in a contrary opinion while nearly two thirds (65%) of the teachers supported that fixed equipment, sporting equipment, and high intensity activities like sprinting facilitate children's active play in the playground. In another instance, a vast majority (86%) of the pre-school teachers agreed that children's playground composed of age appropriate equipment scaled to their sizes encourages the preschool children participation in in outdoor activities.

In the same line, when the study respondents were asked to indicate whether children always feel safe when the play equipment and materials are appropriate and able to challenge their physical and intellectual capacities to meet their individual needs, an overwhelming majority (82%) of them were in agreement while only 14% of them felt otherwise. Further, a vast majority (86%) of the pre-school teachers were in consensus that the arrangement of the equipment is crucial to enhancing children's safety in the playground. Another majority (72%) of the respondents were in opinion that children often perceive the built environment such as sporting facilities, adventurous equipment, and fixed playground equipment as an encouragement to active play on school playgrounds. Thus, the condition of the play equipment in the playground influences pre-school children participation in outdoor activities.

3.5 Measurement of Pre-school Children Participation in outdoor Activities

The researcher picked out ten (10) schools out of 33 schools that took part in the study to establish the number of the preschool children that participated in outdoor activities. The schools were selected basing on the playground safety measures: location of the playground, status of the playground and the condition of the playing equipment. Five schools out of the ten had good playground location, good status, and good condition of the playing equipment. On the other hand, the other five schools hand poor playground location, poor status, and poor condition of the playing equipment. Using the total marks scored in the school playground assessment, the researcher rated the playground safety as either good or poor.

The researcher investigated the number of pre-school children that participated in the playground activities in the schools that had good play ground safety and those that had poor playground safety. The average number of pre-school children in each of the pre-schools that were targeted by the study was 40 children per pre-school. Table 4 and Table 5 show the number of children that participated in the playground activities in schools with good playground safety and those with poor playground safety respectively, during lunch break for four days.

Table 4
Pre-School Children Participation in Schools with Good Playground Safety

Number of pre-school Children that participated in the playground outdoor activities				
Name of Pre-School	Day 1	Day2	Day3	Day4
Sakwa	21	18	25	15
Mwancha	27	24	19	22
Enkinda	13	20	24	16
Gateway Academy	23	26	31	28
Rianyamage	25	33	29	27
Total	109	121	128	108
Average	22	24	26	22

As shown in Table 4, an average participation of the pre-school children in outdoor activities in the pre-schools with good playground safety: Sakwa, Mwancha, Enkinda, Gateway academy and Rianyamage was above half (20 children) of the total number of children (40) in every pre-school. For instance, the average number of children that participated in playground activities on Monday, Tuesday, Wednesday and Thursday in the schools with good playground safety was: 22, 24, 26 and 22 respectively. Thus, the schools with a good playground safety had a high number of children participating in outdoor activities compared to the schools with poor playground safety.

Table 5
Pre-School Children Participation in Schools with Poor Playground Safety

Number of pre-school Children that participated in the playground outdoor activities				
Name of Pre-School	Day1	Day2	Day3	Day4
Kebabe	11	12	17	16
Esanige	20	16	21	19
Ekegoro	9	22	18	15
Magena marabou	13	21	28	23
Alpha Academy	18	24	25	22
Total	71	95	109	95
Average	14	19	22	19

From Table 5, the average participation of the pre-school children in outdoor activities in the pre-schools with poor playground safety Kebabe, Esanige, Ekegoro, Magena marabou and Alpha academy was below half (20 children) of the total number of children (40) in every pre-school. For instance, the average number of children that participated in playground activities on Monday, Tuesday, Wednesday and Thursday in the five schools with poor playground safety was: 14, 19, 22 and 19 respectively. Thus, schools with a playground that had good safety had a higher number of pre-school children participating in outdoor activities as compared to the schools with playgrounds with poor playground safety.

Hypotheses Testing

The researcher used multiple regression analysis to ascertain both the joint and relative influence of the three independent variables in this study on the dependent variable (pre-school children participation in outdoor activities). The regression model capturing the hypothesized relationship was as follows: $Y= \beta_0+ \beta_{1x1}+\beta_{2x2}+ \beta_{3x3}+\varepsilon$ and where y = the level of pre-school children participation in outdoor activities, x_1= the playground location, x_2= the status of the playground, and x_3= condition of the play equipment while ε is the error term. Tables 6, 7 and 8 depict the summary of multiple regression analysis.

Table 6
Multiple Regression Model Summaries

Model	R	R Square (R^2)	Adjusted R Square	Std. Error of the Estimate
1	.68[a]	.462	.431	.501
a. Predictors: (Constant), location of the playground, status of the playground and condition of the playground equipment				

As shown in Table 6, *R* represents the multiple correlations coefficient. The *R*-value of 0.68 means that there is a strong relationship between playground safety and pre-school children participation in outdoor activities in Ekerenyo division. An *R*-squared value of 0.462 means that the independent variables (location of the playground, status of the playground and condition of the playground equipment) explain only 46.2 per cent of the variance in the pre-school children participation in outdoor activities. Other variables not included in the current study may have accounted for the remaining 53.8 % variance. Table 7 shows the Anova results and which ascertains the significance of the multiple regression model.

Table 7
Multiple Regression Model Significance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.212	3	9.071	51.834	.001[a]
	Residual	23.321	133	.175		
	Total	50.533	136			

a. Predictors: (Constant), location of the playground, status of the playground and condition of the playground equipment b. Dependent Variable: preschool children participation in outdoor activities

The *F*-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. That is, the ANOVA shows whether the model, overall, results in a significantly good degree of prediction of the outcome variable. Table 7 shows that the joint independent variables statistically significantly predict the dependent variable, F (3, 133) = 51.834, p <0.05. In other words, the regression model was a good fit for the data. Table 8 captures the relative contribution of each independent variables on the dependent variable.

Table 8
Summary of Multiple Regression Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.515	.304		9.177	.000
	Location of the playground;	.651	.112	.640	2.11	.000
	Status of the playground;	.761	.213	.720	2.187	.000
	Condition of the playground equipment;	.921	.012	.870	4.46	.000

a. Dependent Variable: Preschool children participation in outdoor activities

Assuming the error term ε to be zero and substituting the unstandardized coefficients β values, the estimated multiple regression equation becomes: Y = 2.515 + 0.651 Location of the playground+ 0.761 status of the playground + 0.921 Condition of the playground equipment This shows that any additional unit in the score of location of the playground, the score of preschool children participation in outdoor activities increases by 0.651 units; a unit increase in the score of status of the playground, the score of preschool children participation in outdoor activities increases by 0.761 units and a unit increase in the score of condition of the playground equipment, the score of preschool children participation in outdoor activities increases by 0.921 units. Therefore, playground safety can be used to explain the variability in preschool children participation in outdoor activities among pre-school children in Ekerenyo Division, in Nyamira County. It can also be deduced from Table 8 that all the three independent variables had a significant influence on preschool children participation in outdoor activities ($p < 0.05$). The condition of the playground equipment was found to have the greatest influence ($\beta = 0.870$, t (136) = 4.46), followed by status of the playground ($\beta = 0.720$, t (136) = 2.187).

4. Discussion

A vast majority (92%) of the teachers supported that where the playgrounds are easily accessible; there is high children participation in outdoor activities. Thus, a playground location affects pre-school children participation in outdoor activities. This finding concurs with Caro et al. (2016) finding that one of the factors that make a playground activity-friendly is its vicinity and accessibility. Majority (68%) of the teachers were affirmative that presence of natural features such as bushes, grass, trees in the playground can discourage preschool children participation in outdoor activities. This was occasioned by a number of cases where children disappeared during play. The finding was however, contrary Hyndman et al., (2012) that many children wish their physical environment provided more opportunities for active play on school playgrounds in Australia. For instance, in Australia, school playgrounds contain many natural features such bushy areas, grassed areas, trees, and ponds or streams as well as built structures that include but not limited to fixed playground equipment, playground markings, sports equipment, sandpits, shade sails, asphalt and concrete play areas (Chancellor 2013). Thus, if health and security hazards such as snakes and other dangerous animals, sharp objects, dangerous holes and presence of potential child traffickers are taken care of, natural features can safely be introduced and advocated for in Ekerenyo division playgrounds.

More than half of teachers (58 %) agreed that preschool children enjoys more on loose sports equipment like skipping ropes playing balls than fixed playground equipment. In the same line, researchers have observed that loose sports equipment, such as bats, balls, and skipping ropes, on the school playground, positively influences children's active play (Willenberg et al., 2009; McKenzie et al., 2010; Ridgers, Stratton & McKenzie, 2010). Nearly two thirds (64%) of the study respondents felt that the arrangement of the equipment is crucial to enhancing children's safety in the playground. The study finding concurs with a previous study that was carried out by Broekhuizen, Scholten and Vries (2014) that recommends young children's playground composed of age appropriate equipment scaled to their sizes, abilities and developmental level, for instance, handles should be smaller; bridges and platforms should be low and have guard rails and hand rails; slides should be short (under 4 feet), and stairs should have gradual (not steep) incline. A playground like this provides opportunities for children to engage in activities that satisfy their inquisitive status and innate desire to discover and be creative. Further, teachers were affirmative that children often perceive the built environment such as sporting facilities, adventurous equipment, and fixed playground equipment as an encouragement to active play on school playgrounds. According Malone and Tranter (2013), children always feel safe when the play equipment and materials are appropriate and able to challenge their physical and intellectual capacities to meet their individual needs. Play equipment include play structures like bars and domes for climbing, sliding boards, ladders and parallel boards, knotted ropes, climbing poles, bridges, platforms and swings, walking boards, balance boards and sand boxes. This is an implication that the condition of the play equipment influences pre-school children participation in outdoor activities.

5. Conclusion

The study concludes that the level of children participation in outdoor activities in Ekerenyo division in Nyamira County depends on the location and status of playground, and the condition of playing equipment. It is therefore, unfortunate that some of preschools in Ekerenyo division lacked the essential play equipment while their playground were in disarray. Children in such schools are deprived of play and consequently miss the opportunity of maximizing the social-emotional, motor, linguistic and cognitive development as well as gaining self-care skills. The study recommends that school inspectors should ensure that preschools have safe play equipment through frequent supervision of schools.

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