Original Article

OPEN ACCESS

Impact of Outdoor Sports on Preschool Children's Motor Skills Development

Usman Tunde Saadu[1A-D*]

[1*]Department of Early Childhood and Primary Education Faculty of Education Kwara State University, Malete

Authors' contribution:

A. Conception and design of the study
B. Acquisition of data
C. Analysis and interpretation of data
D. Manuscript preparation
E. Obtaining funding

Article History:
Received: *June 26, 2022*
Revision: July 18, 2022
Accepted: *October 5, 2022*
Published: *October 25, 2022*

Corresponding author: Usman Tunde Saadu, Department of Early Childhood and Primary Education Faculty of Education Kwara State University, Malete; E-mail: usman.saadu@kwasu.edu.ng

How to Cite: Saadu, U. T. (2022). Impact of Outdoor Sports on Preschool Children's Motor Skills Development. *Indonesian Journal of Sport Management*, 2(2), 167-173. https://doi.org/10.31949/ijsm.v2i2.2728

Abstract. The main purpose of this study was to examine the impact of outdoors sports on preschool children's motor skills development in Ilorin Metropolis. The study adopted a pretest-posttest control group quasi-experimental research design. The population of this study consisted of all preschool children in public schools the Ilorin Metropolis, Kwara State. Purposive sampling technique was used to select 10 public schools who had preschooler with motor skill coordination problem. The sample size for this study comprised of 47 preschoolers who had motor skills coordination problems. The instrument was titled "Preschoolers performance scores (PPS)" were used to elicit information. It consisted of 10 items on a 3 likert-scale; options on "low", "moderate" and "high" based on what preschoolers were able to do before and after exposing them to outdoor sports. Some of the items were kicking a ball at 5m target, throwing at a 2m target, running forward, balancing on right and left foot, throwing and catching a ball. The keys used were low 0.00-0.09, moderate 1.0-1.4 and high 1.5-2.5. Instruments were validated by lecturers in the department of Human Kinetics and reliability score was 0.79. The data were analyzed using frequency counts and percentage and Analysis of Covariance (ANCOVA) at 0.05 level of significance. The findings of the study revealed that there was a significant main effect of treatment on preschool children motor skill development ($F(1; 47) = 264.448$, $P < 0.05$). also, there was no significant main effect of gender on preschool children motor skill development ($F(1; 47) = 1.422$; $P > 0.05$) and there was no significant interaction effect of treatment and gender on preschool children motor skill development (($F(1; 47) = 1.538$; $P > 0.05$). The study concludes that sports especially outdoor activities have positive impact on preschoolers' motor skills development. Based on the findings, the study recommends among others that; teachers in preschools should be encouraged on the use of outdoor sports in improving motor skills development in children and workshops and trainings should be organized by school owners regularly, in order to educate teachers on new ways of improving motor skills development.

Keywords: motor skills; outdoor; sports; preschool; children

INTRODUCTION

To ensure that children grow to their full potential, children should be provided with opportunity for play and especially outdoor activities. Regular physical activity improves functional status and limits disability during the middle and later adult years. Physical activity contributes to quality of life, psychological health and the ability to meet physical work demands. Physical education can serve as a vehicle for helping children to develop the knowledge, attitudes, motor skills, behavioral skills and confidence needed to adopt and maintain physically active lifestyle. While many parents in competitive western technological societies are anxious to start their children on the road to academic success as early as possible, the foundations of that success are rooted in the physical competence in the world. Yes, a child learns more in the first three years of life, than it will during all its years in elementary school, but that life is literally a "child's play" in seeking to maximize the potential of the first three years, adults must remember the development needs of children. Physical development is vital for children and it lays the foundation for a healthy and active life. When it comes to children, the best physical activity is play! Outdoor active play experiences are important for a child's development and should always be supervised by a teacher or a care giver. Theorists stated that large muscle activity through play is not a luxury rather it is a necessity for young developing children.

According to Nuhu, Obinna and Ike, (2014), childhood sports participation is a significant predictor of young adults' participation in sports and physical fitness activities. Physical activities are associated with improved academic achievement, including grades and standardized test scores. Further, such activities can affect cognition skills, attitudes and academic behavior, including enhanced concentration, attention and improved classroom behavior (Calbom, 2012). According to Meier (2012), a number of studies provide support for the premise that physical activity and sports in particular can positively affect aspects of personal development among young children such as self-esteem and leadership. However, evidence indicates that availability of outdoor equipment and extensive exposure are key factors in maximizing positive effects on physical skill development of children.

Paul (2021) posited that, there is a growing concern among preschool education practitioners on the current approach to Early childhood education that emphasizes the academic component at the expense of other areas of child development especially physical development which promotes motor skills development. Over emphasis on cognitive development observed, goes against child development research findings that define quality and relevance of preschool to be, that which caters for total development of the child. It is not new to early childhood educators that the learning and development of motor skills develops the young child holistically from the cognitive, the social and emotional to the physical phases of development (Brownrigg & Tremby, 2018). While the majority of young children develop the fundamental motor skills such as running, skipping and hopping, it is becoming more apparent that some of them do not show mastery of these skills as they get older (Trost 2011)

Adults visualise movements of infants and toddlers as non-verbal communication and can use this communication channel to monitor their progress in developmental milestones. This is especially so for infants who often cannot express themselves accurately or clearly through verbal communication but use movements as their primary means of communication (Jocab, 2004). The sensitive learning period during fundamental motor stage is important as it establishes the foundation for specialized movement abilities in later years (Gabbard, 2010)

The traditional view of how the brain and muscles worked was simply the body responded to the brain's instructions (Thelen & Kelvin, 2013). Development of motor skills was thought to be primarily a result of maturation (Bushnell & Boudreau, 2018). However, Diamond's study (2020) examining motor and cognitive development suggests that they may be interrelated. Through movement, young children learn about their bodies and movement

capabilities and develop fine and gross motor skills which then facilitate cognitive growth. While Piaget (1952) believed that cognitive abilities were developed through the interaction with the environment, Diamond (2020) further explained that the overall cognitive development can be established through the coordination of bodily movements and brain synapses.

In early childhood education, the outdoor environment is a significant component influencing curriculum design and planning for young children. It allows extended potential to foster whole child development, particularly in physical and motor development. Further, the research suggests that outdoor environments give young children more positive effects such as greater sense of freedom, more creative play and fun (Fjørtoft, 2021), compared to indoor movement experiences in early education settings. Mabu (2011) carried out a study on the influence of sports on the development of preschool children's motor skills in Uyo. The study revealed that availability of play materials influenced children's social skills development. However, majority of the teachers allocated 30 minutes for children play in the timetable which was deemed inadequate for children play. Findings also revealed that allowing preschool children into physical activities outside assisted them acquire motor skills.

Willons (2020) investigated on the effect of sports on preschooler's physical development in Kastina. The study used 73 preschool children as sample size in both public and private schools using both genders. The study revealed that, male preschoolers' physical development was improved more than their female counterpart when through sports. Thelen and Kelvin (2013) revealed that sports improve the motor skills development of male children than female preschoolers in Imo. Also, Bushnell & Boudreau (2018) posited that the use of physical activities such as sports enhances motor skills development in children. Irrespective of gender difference. Creating equal opportunity for girls and boys children with different interest in all aspects of sports in schools may improve motor skills development. However, there is a lot of rote learning with more emphasis on academic achievement depriving the learner time for outdoor sports. Evidence is seen in schools that have perfected teaching over the weekends even to preschools yet what is done is within the confines of classrooms (Ojuondo, 2015).

Statement of the Problem

Researchers opined that too many educators and parents, believe outdoor sports takes time away from academic activities. As a result, outdoor activities in many preschools is limited or eliminated. Further, programs that do not advocate outdoor play often focus on learning cognitive and academic skills, rather than encouraging needed physical pursuits and social interactions. Major reasons for this problem are the adoption of academic standards by parents and even Ministry of Education on motor skills development. The idea has left preschool children unhealthy such as being obese or overweight because they don't get a chance to exercise and learn new skills through outdoor sports.

Given that many researchers support the "sensitive learning period" for the emergence of fundamental motor skills, which builds the foundation for more complex movement abilities in later years. the urgency of children's involvement in movement programmes is apparent. Missing the sensitive learning opportunities may not achieve positive and optimum improvement in motor learning and sports performance. Without the mastery of fundamental motor skills, young children may fail to participate adequately in physical activities. This would inevitably affect motor development during their fundamental stage as well as the later stages of sports performance. Therefore, providing the foundation for fundamental motor skills is essential to maximize children's potential and/or future participation in sports. The following research hypotheses were formulated and tested at 0.05 level of significance. Ho1: there is no significant main effect of treatment on preschool children motor skill development.

Ho2: there is no significant main effect of gender on preschool children motor skill development. H03: there is no significant interaction effect of treatment and gender on preschool children motor skill development

METHODOLOGY

The study adopted a pretest-posttest control group quasi-experimental research design. The population of this study consisted of all preschool children in public schools the Ilorin Metropolis, Kwara State. Purposive sampling technique was used to select 10 public schools who had preschooler with motor skill coordination problem. The sample size for this study comprised of 47 preschoolers who had motor skills coordination problems. The study had two groups, some preschoolers with motor skills coordination problem were exposed to outdoors sports as the experimental group, while the second groups were taught in their classroom with placebo. Observation was used as a technique to assess preschoolers on their motor skills development before and after treatment. The instrument was titled "Preschoolers performance scores (PPS)" were used to elicit information. It consisted of 10 items on a 3 likert-scale; options on "low", "moderate" and "high" based on what preschoolers were able to do before and after exposing them to outdoor sports. Some of the items were kicking a ball at 5m target, throwing at a 2m target, running forward, balancing on right and left foot, throwing and catching a ball. The key used were low 0.00-0.9, moderate 1.0-1.4 and high level 1.5-2.5. Instruments were validated by lecturers in the department of Human Kinetics and reliably tested at 0.79. The data were analyzed using frequency counts and percentage and analysis of covariance (ANCOVA) at 0.05 level of significance.

RESULT AND DISCUSSION

Table 1 shows the effect of treatment on preschool children motor skill development in Ilorin Metropolis. There was a significant main effect of treatment on preschool children motor skill development in Ilorin Metropolis ($F(1; 47) = 264.448$, $P < 0.05$). The hypothesis is therefore rejected in the light of the result since the significant value (.000) is less than 0.05. This implies that treatment had significant effect on preschool children motor skill development in Ilorin Metropolis.

Table 1. Summary of Analysis of Covariance (ANCOVA) showing the Main effect of treatment on preschool children motor skill development.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	669.767[a]	8	167.442	125.411	.000
Intercept	333.135	1	333.135	249.512	.000
Pretest	2.818	1	2.818	2.111	.153
Main Effect					
Treatment	353.076	1	353.076	264.448	.000
Gender	1.898	1	1.898	1.422	.239
Two Way Interaction					
Treatment* gender	2.053	1	2.053	.282	.221
Error	62.752	47	1.335		
Total	111811.000	52			
Corrected Total	732.519	52			

a. R Squared = .914 (Adjusted R Squared = .907)

Table 1 also revealed the effect of gender preschool children motor skill development in Ilorin Metropolis. There was no significant effect of gender on preschool children motor skill

development in Ilorin Metropolis ($F_{(1; 47)}$ =1.422; P > 0.05). The hypothesis is therefore not rejected in the light of the result since the significant value (.239) is greater than 0.05. This implies that gender had no significant effect preschool children motor skill development in Ilorin Metropolis. Table 1 also revealed the interaction effect of treatment and gender preschool children motor skill development in Ilorin Metropolis. There was no significant interaction effect of treatment and gender on preschool children motor skill development in Ilorin Metropolis ($F_{(1; 47)}$ =1.538; P >0.05). The hypothesis is therefore not rejected in the light of the result since the significant value (.221) is greater than 0.05. This implies that interaction of treatment and gender had no significant effect of preschool children motor skill development in Ilorin Metropolis.

Table 2 revealed that the significant main effect exposed by table 2 is as a result of the significant difference among: Outdoor sports and Conventional method. This implies that those exposed to outdoor sports (Mean = 18.551) performed better than those exposed to control group had (mean = 11.057).

Table 2. Summary of estimated marginal means with the Groups

Group	Mean	Std. Error	95% confidence intervals for difference	
			Lower Bound	Upper Bound
Outdoor Sports	18.551	.303	6.566	8.420
Control	11.057	.269	-8.420	-6.566

Table 3. Summary of Bonferroni's Post Hoc Pairwise Comparison of the scores within the two groups

Treatment	**Mean Difference**	**Experimental**	**Control Group**
Outdoor sports	18.551	*	
Conventional Method	11.057		*

Table 3 revealed that the significant main effect exposed by table 1 is as a result the significant difference between Outdoor sports and conventional method. Outdoor sports refers to experimental groups, while conventional method is known as control group. This implies that those exposed to Outdoor sports (18.551) performed better than those exposed to conventional method (11.057).

Discussion of findings

Based on the finding of the study, it was revealed that there was a significant effect of treatment on preschool children motor skills development in Ilorin Metropolis. This implies that preschool children with motor skills coordination were observed to have enhanced through outdoor sports. This finding is in tandem with Mabu (2011) who carried out a study on the influence of sports on the development of preschool children's motor skills in Imo and it was revealed that allowing preschool children into physical activities outside assisted them acquire motor skills

Also, the study revealed that gender no significant effect on preschool motor skills development in Ilorin Metropolis. This finding implies that irrespective of male and female preschoolers, the use of outdoor enhanced motor skill development. This study is in line with Bushnell and Boudreau (2018) posited that the use of physical activities such as sports enhances motor skills development in children irrespective of gender difference. This finding negates Willons (2020) who investigated the effect of sports on preschooler's physical development in Kastina. The study revealed that, male preschoolers' physical development was improved more than their female counterpart when through sports. Thelen and Kelvin (2013) revealed that sports improve the motor skills development of male children than female preschoolers in Imo. The

Lastly, the finding revealed that treatment and gender had no significant effect on preschool motor skill development in Ilorin Metropolis. This implies that male and female preschoolers exposed to outdoor sports had similar effect on their motor skills development. Despite the differences on the gender, outdoor sports enhanced both fine and gross motor development in preschoolers.

CONCLUSION

Based on the findings of the study, it is evident that outdoor sports can enhance motor skills development on both make and female preschoolers. The study thus, concludes that sports especially outdoor activities have positive impact on preschoolers' motor skills development. Based on the findings, the study recommends as follows: teachers in preschools should be encouraged on the use of outdoor sports in improving motor skills development in children, workshops and trainings should be organized by school owners regularly, in order to educate teachers on new ways of improving motor skills development, male and female preschoolers should be encouraged and allowed to use outdoor sports in schools and homes for motor skills development.

REFERENCES

Brownrigg & Tremby (2018). Active Healthy Kids Canada report cards on physical activity for children and youth. In Children and Exercise XXIV: The Proceedings of the 24th Pediatric Work Physiology Meeting (p. 115). Routledge.

Bushnell, E. W., & Boudreau, J. P. (2018). Motor development and the mind: The potential role of motor abilities as a determinant of aspects of perceptual development. Child Development, 64(4), 1005-1021

Calbom, L. (2012). School-Based Physical Education and Sports Programs. Report to Congressional Requesters. GAO-12-350.US Government Accountability Office.

Diamond, A. (2020). Close interrelation of motor development and cognitive development and of the cerebellum and prefrontal cortex. Child Development, 71(1), 44-56.

Fjørtoft, I. (2021). The natural environment as a playground for children: The impact of outdoor play activities in pre-primary school children. Early Childhood Education Journal, 29 (2), 111-117

Gabbard, C. P. (2010). Outcome-based preschool physical education. International Journal of Physical Education, 37(1), 17-23.

Jocab. W.. (2014). A study of gross motor skills of preschool children. Journal of Research in Childhood Education, 19(1), 32-43.

Mabu, Y., (2011). Influence of sports on the development of preschool children's motor skills in Uyo. Doctoral dissertation submitted to the University of Uyo

Meier, G. (2012). Laureus Chairman Edwin Moses welcomes U.S. Government report on youth sport and urges congress to reverse budget cuts. Retrieved from https://www.laureus.com/news/laureus-chairman-edwin-moseswelcomes-us-goverment-report-youth-sport-and-urges-congress

Nuhu. L. K., Obinna. P., and Ike. R., (2014). Childhood sports participation as predictors of physical fitness activities during young adulthood. Journal for sports. , 35(4), 495-520

Ojuondo, M. A. (2015). Influence of play on development of language skills among preschool children in Plateau state. Journal for gender and behviour. 3(1)

Paul E., (2021). Factors that Influence the quality and Relevance of ECE in Nigeria. Unpublished MED, Thesis University of Nigeria, Nsukka.

Thelen, E. And Kelvin F., (2013). Developmental biodynamics: Brain, body, behavior connections. Child Development, 21(3).

Trost, S. G. (2011). Interventions to promote physical activity in young children. Encyclopedia on Early Childhood Development, 1-6

Willons, H. G. (2020). effect of sports on preschooler's physical development in Kastina.an undergraduate project submitted to University of Jos.