

# **Influence of Play and Movement Activities on Selected Psycho Motor Skills of Elementary School Children**

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## **Abstract**

The aim of this study was to find out the influence of play and movement activities on selected psychomotor skills of elementary school children. **METHODS:** To achieve the purpose of the study, the researcher randomly selected sixty elementary school children in the age group of nine to eleven from three elementary schools in Chidambaram. The subjects (N=60) were randomly assigned into three groups of 20 children in each. Group I acted as play activities group (PAG), group II acted as movement activities group (MAG) and group III acted as control group. PAG was given twelve weeks of play activities, daily 40 minutes for six days a week. Play activities consisted of throwball, tennicoit, kho kho, and minor games. MAG was given twelve weeks of movement activities, daily 40 minutes for six days a week. Movement activities consisted of run, walk, jump, hop and aerobic exercises. Subjects were tested of their psycho motor variables, namely, coordination, static balance and dynamic balance prior to the experiment and after the experiment. **RESULTS:** The results of the study proved that due to play and movement activities, psycho motor variables static balance, dynamic balance and motor coordination were found to be significant ( $P < 0.05$ ). **CONCLUSIONS:** It was concluded that planned and regular play and movement activities significantly improved selected psychomotor skills of elementary school children.

**Key Words:** Play Activities, Movement Activities, Psychomotor skills, Static Balance, Dynamic Balance, Motor Coordination.

## **Introduction**

Play and movement activities provide opportunities for children to learn social interaction, and all parents aspire for their children to be successful in these interactions. This success is a measure of the children's social well-being and is marked by the ability of children to develop and sustain friendships, to cooperate, to lead, and to follow. Unstructured active play with others, including with parents, siblings, and peers, is a major opportunity to cultivate social skills. This is because all play with others requires solving some form of a social problem, such as deciding what to play, who can play, when to start, when to stop, and the rules of engagement. Solving these dilemmas and conflicts that arise in play encourages children to compromise and to cooperate. This process can cultivate a range of social and emotional capabilities such as empathy, flexibility, self-awareness, and self-regulation. Such capabilities, sometimes referred together as "emotional intelligence," are essential for successful social interactions in adult life. Emotional intelligence contributes to success in the workplace, and it is the foundation for success in the intimate social relationships, such as between parents, those become the primary models for children's social development.

There is a large body of scientific literature that demonstrates the health-promoting effects in adults of various forms of social connection. However, little attention has been paid to those influences in early life that allow children to enter adulthood with the abilities to develop and to maintain social connections. These abilities arise through early influences on the developing brain that can be cultivated through unstructured free play. Although many abilities may contribute to achieving social connections, it is maintained that empathy, which can be defined as recognizing the emotions of self and others and conveying that recognition, is an ability that emerges in early childhood, is the key to meaningful affiliation, and arises, in part, from the experience of free play and movement activities.

Pangrazi, (2001); Siedentop, (1998); Wall & Murray, (1990), leading physical education scholars did extensive researches in physical education for elementary school children, introduction of physical education, fitness and sports and children and movement respectively. They were unanimous in holding that the "Competitive Achievement Model" should be kept out of the physical education curriculum, especially at the elementary level. Some teachers and coaches believe that competition at the elementary level is good because it teaches children how to lose. Learning to become a graceful loser is certainly an important lesson. Still, the inclusion of all children and learning to cooperate with others are more important than learning how to lose (Graham, 1992) Pivarnik & Pfeiffer, (2002) is of view that as the "fitness revolution" is gathering momentum we must join this movement and incorporate a mandatory health-related fitness program with clearly stated standard of "well-being" along with the existing skills instruction and skills testing programmes. Carol Kay Harsell (1985) stated that a child's world of work is through play. Preschoolers learn about their world and how to interact with their peers through play. Alpert et. al. (1990) had investigated the effects of aerobic exercise on a sample of 24 preschoolers and found that cardiovascular fitness, agility, and self-esteem can be facilitated in preschoolers by an aerobic exercise programme. The theoretical foundations based on existing researches proved that play and movement activities on selected psychomotor skills of elementary school children with the main objective to find out whether play activities or movement activities influences selected psychomotor skills, namely, motor coordination, static balance and dynamic balance of the elementary school children.

The purpose of this research is to find out the influence of play and movement activities there was further scope for research to find out the influence of on selected psychomotor skills of elementary school children.

**Table-I**  
**Influence of Play and Movement Activities on Selected Psychomotor Skills**

	Play Activities Group	Movement Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	7.70	7.41	10.19	Between	93.69	2	46.84	1.11
Std Dev	3.98	8.43	6.32	Within	2410.01	57	42.28	
Post Test Mean	14.47	13.13	11.37	Between	96.37	2	48.18	0.45
Std Dev	13.27	9.69	7.34	Within	6157.57	57	108.03	
Adjusted Post Test Mean	15.40	14.42	9.15	Between	436.64	2	218.32	5.33*
			Within	2294.53	56	40.97		
Mean Diff	6.78	5.72	1.18					
<b>Calculation of Analysis of Covariance on Dynamic Balance</b>								
Pre Test Mean	23.40	23.70	23.75	Between	1.43	2	0.72	0.04
Std Dev	4.76	4.14	3.80	Within	1030.75	57	18.08	
Post Test Mean	26.30	26.35	23.90	Between	78.43	2	39.22	2.52
Std Dev	4.59	3.63	3.52	Within	886.55	57	15.55	
Adjusted Post Test Mean	26.50	26.27	23.78	Between	90.99	2	45.49	61.14*
			Within	41.67	56	0.74		
Mean Diff	2.90	2.65	0.15					
<b>Calculation of Analysis of Covariance on Motor Coordination</b>								
Pre Test Mean	22.79	22.56	22.56	Between	0.74	2	0.37	0.22
Std Dev	1.33	1.28	1.28	Within	96.06	57	1.69	
Post Test Mean	21.85	21.98	22.39	Between	3.22	2	1.61	0.90
Std Dev	1.25	1.44	1.31	Within	101.58	57	1.78	
Adjusted Post Test Mean	21.70	22.05	22.46	Between	5.87	2	2.94	10.86*
			Within	15.14	56	0.27		
Mean Diff	0.95	0.57	0.16					

Required  $F_{(0.05, 2, 57)} = 3.15$  \*Significant

## Methods

To achieve the purpose of the study, the researcher randomly selected sixty elementary school children in the age group of nine to eleven from three elementary schools in Chidambaram. The subjects (N=60) were randomly assigned into three groups of 20 children in each. Group I acted as play activities group (PAG), group II acted as movement activities group (MAG) and group III acted as control group. PAG was given twelve weeks of play activities, daily 40 minutes for six days a week. Play activities consisted of throwball, tennicoit, kho kho, and minor games. MAG was given twelve weeks of movement activities, daily 40 minutes for six days a week. Movement activities consisted of run, walk, jump, hop and aerobic exercises. Subjects were tested of their psycho motor variables, namely, coordination, static balance and dynamic balance prior to the experiment and after the experiment. The initial final scores were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the hypothesis of the study.

## Results

The analysis of data collected, means, standard deviation, results of ANCOVA on the influence of play and movement activities on selected psychomotor skills of the elementary school children are presented in Table 1.

The results of the study proved that due to play activities, static balance of the elementary children has improved from 7.70 to 14.47 with mean difference of 6.78, movement activities has improved from 7.41 to 13.13 with mean difference of 5.72, while control group improved only 1.18. The improvements were found to be significant as the obtained F value of 5.33 on adjusted means was greater than the required table value of 3.15.

The PAG has improved psychomotor variable dynamic balance from 23.40 to 26.30 with mean difference of 2.90 and MAG has improved 23.70 to 26.35 with mean difference of 2.65 while CG improved only 0.15. The improvements were found to be significant as the obtained F value of 61.14 on adjusted means was greater than the required table value of 3.15.

In the similar way the psychomotor variable, motor coordination was also improved by PAG from 22.79 to 21.86 with mean difference of 0.95, MAG from 22.56 to 21.98 with mean difference of 0.57 and CAG with mean difference of 0.16. The differences were found to be significant as the obtained F value of 10.86 on adjusted means was greater than the required table value of 3.15.

Since significant differences were recorded, post hoc analysis was made using Scheffe's post hoc test to compare the pairs of means to find out which of



the group has contributed significantly for the improvement of selected psychological variables and the results are presented in Table 2.

**Table-II**  
**Multiple Comparisons of Pairs of Means, Mean Differences and**  
**the Required Confidence Interval for Selected**  
**Psychomotor variables**  
**Scheffe's Post Hoc Analysis for Static Balance**

<b>Play Activities Group</b>	<b>Movement Activities Group</b>	<b>Control Group</b>	<b>Mean Difference</b>	<b>Required C.I</b>
15.40	14.42		0.98	5.08
15.40		9.15	6.25*	5.08
	14.42	9.15	5.27*	5.08
<b>Scheffe's Post Hoc Analysis for Dynamic Balance</b>				
26.50	26.27		0.22	0.68
26.50		23.78	2.72*	0.68
	26.27	23.78	2.50*	0.68
<b>Scheffe's Post Hoc Analysis for Motor Coordination</b>				
21.70	22.05		0.36	0.41
21.70		22.46	0.77*	0.41
	22.05	22.46	0.41*	0.41

\*Significant

The results presented in Table 2 proved that while PAG and MAG were significantly improved selected psychomotor variables, static balance, dynamic balance and motor coordination of the elementary children, there was no significant difference between PAG and MAG in influencing selected psychomotor variables.

**Discussions**

The physical development of a child involves developing his fine and gross motor skills. Gross motor skills involve the big muscle movements such as hopping, dancing and running. Fine motor skills involve movements of the small muscles like writing or coloring. Play aids in developing psychomotor skills. There are new research findings that more than eight out of every ten disadvantaged preschoolers from two urban areas showed significant developmental delays in basic motor skills such as running, jumping, throwing and catching. According to Jacqueline Goodway, lead author of the study, "Most people, even many educators, believe that motor skills just naturally develop in children, but our study shows that's clearly not true. Like any skill, there needs to be instruction, there needs to be practice, there needs to be feedback. That's how children master these motor skills." This important aspect, that is, providing programmed play and movement activities to elementary children are long neglected. To highlight the importance and the influence of play and movement activities, this research

was undertaken. The results of this study proved that properly programmed and regularly implemented play and movement activities could significantly improve selected psychomotor skills of the elementary school children. The findings of this study are in agreement with the findings of Ross, Ann; Butterfield, Stephen A. (1989) who found that, for 120 boys and girls in a rural Maine elementary school, a 36-week physical education program incorporating dance and movement education produced significant improvement on a wide variety of fundamental motor, physical fitness, and balance skills.

### Conclusions

It was concluded that a planned and regular the play and movement activities significantly improves psychomotor variables of elementary school children.

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