

# INFLUENCE OF HEIGHT AND WEIGHT ON SELECTED FUNDAMENTAL MOVEMENT SKILL AMONG RURAL SCHOOL CHILDREN

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## Abstract

Influence of height and weight on selected fundamental movement skill among rural school children. To the fundamental movement skill (fms) proficiency or the ability to perform basic skills variables throwing, catching and jumping has been linked to participation in lifelong physical activity. fms proficiency among rural school children has declined in the previous 4-6 years, with more children performing fms at a low-mastery level. These declines may help explain the insufficient levels of participation in health promoting physical activity seen in today's rural school children. The after school time period (e.g., 3 to 6 p.m.), is increasingly considered an opportune time for fundamental movement skill activity interventions. To date, little research has examined the potential for after school programming to improve fms proficiency. Participants (hilleya matric school, devarkullam (n=40, 6-10 years) of two existent height and weight physical activity based after school programs, a low-organized games and a sports-based program, were pre- and post-tested for fms proficiency using the running & throwing test of gross fundamental movement skills development for independent variables 50 meter run and children play softball throwing (tgmd-2) over an six-week period. The collected data was analysed with Independent „t” test at 0.05 level of confidence. The height & weight based program participants showed improvement in fms over the six- week study program participants significantly improved their proficiency (p=0.00, eta2=0.30). No significant (p=0.13, eta2 = 0.06). These results suggest that after school programs with a low organized games-based focus may support a moderate improvement in fms proficiency in young children. Better training of after school program leaders on how to teach fms may be necessary to assist children in acquiring sufficient proficiency in fms.

**Key words: (Height & weight) fundamental movement skill variables running, throwing and rural school children**

## INTRODUCTION

Weight and height percentiles are determined by growth charts and body mass index charts to compare a child's measurements with those of other children in the same age group. By doing this, doctors can track a child's growth over time and monitor how a child is growing in relation to other children.

Measuring height and weight accurately is important when monitoring an infant or child's health. Height and weight measurements are used to calculate your body mass index, or BMI, a measure of healthy versus unhealthy weight. They are also important when tracking a child's growth.

Fundamental movement skills (FMS) are elementary forms of movement. FMS are categorized into two major subscales: locomotor skills and object control skills. Locomotor skills are those that involve moving the body from one location to another (e.g. running, jumping, hopping, leaping, galloping, and sliding). Object control skills refers to manipulation and object projection skills (e.g. throwing, kicking, catching, striking, dribbling, and rolling). Studies suggest that high proficiency in FMS among school-age children is correlated with many health related benefits such as higher levels of physical activity, cardiovascular fitness, and healthy weight. In contrast, low proficiency in FMS during childhood is associated with many potentially adverse consequences; a child with poor competency in running, jumping,

kicking, catching, throwing, and other basic skills has limited chance at successfully engaging in various sports and activities later in life because he/she will not have “prerequisite skills” to be active. Thus, FMS proficiency is an essential factor a to avoid a sedentary lifestyle and prevent weight gain and obesity during childhood and adulthood. A common misconception is that children “naturally” learn FMS however, research study evidence clearly shows that FMS mastery among children and adolescents is really low and a considerable number of children do not achieve acceptable levels of these basic skills. Manipulating any of these factors can influence the degree that motor skills develop. and improved motor control causes child patterns in tasks like running, jumping, throwing, etc. to look more adult . Therefore, the aim of this study was to investigate the effects of 8-weeks of core stability training on the process of locomotor and object control performance in children with low FMS proficiency.

## 2. Purpose of the Study

The purpose of this study was to find out the influence of height and weight on selected fundamental movement skill among rural school children.

## 3. Methodology

The purpose of the study was to find out the influence of height and weight on selected fundamental movement skill among rural school children. To achieve the purpose of the study thirty rural school children were selected randomly as subjects from various schools in Tirunelveli District, Tamilnadu, India and their age were ranged from 6 to 10 years. The selected subjects were assigned at random into two groups of forty school children’s (N=40) each. Group- I underwent fundamental movement skill and Group–II acted as control group who did not attended any special training other than their regular daily school schedule curriculum. The duration of the training period was restricted to six week for three alternative days per week. The pre and post tests data were collected before and after the training period. The dependent variables running and throwing were tested by standardized tests items 50 meter run and children play softball throwing tests respectively.

## 4. Analysis of the Data

The influence of height and weight on selected fundamental movement skill among rural school children were analyzed and presented below.

The mean value of t-test on running (50 mts) of pre and posttests scores of fundamental movement skill variables and control groups have been analyzed and presented in table 1.

Table1: The Mean Value of Pre and Post Tests Scores of fundamental movement skill group and Control Groups on running (30 meters)

Group	Pre Mean	Post Mean	Obtained t-ratio
FMS Group	7.99	7.8	0.99*
SD $\pm$	0.65	0.60	
Control Group	7.98	8.13	3.65
SD $\pm$	0.67	0.64	

\*Significant at .05 level. (The table value required for 0.05 level of significance with df 19 is 2.09)

The table 1 show that the pre-test mean value of fundamental movement skill and control groups are 7.99 and 7.98 respectively and the posttest means are 7.80 and 8.13 respectively. The obtained dependent t-ratio values between the pre and posttests means of fundamental movement skill and control groups are 0.99 and 3.65 respectively. The table value required for significant difference with df 1 and 19 at 0.05 level is 2.09. Since, the obtained ‘t’ ratio value of fundamental movement skill group was greater than the table value, it is understood that fundamental movement skill group had significantly improved on running. However, the control group had not improved significantly. The ‘obtained t’ value is less than the table value, as they were not subjected to any specific training (height & weight).

The bar diagram shows the mean values of pre and post tests on running test of fundamental movement skill and control groups

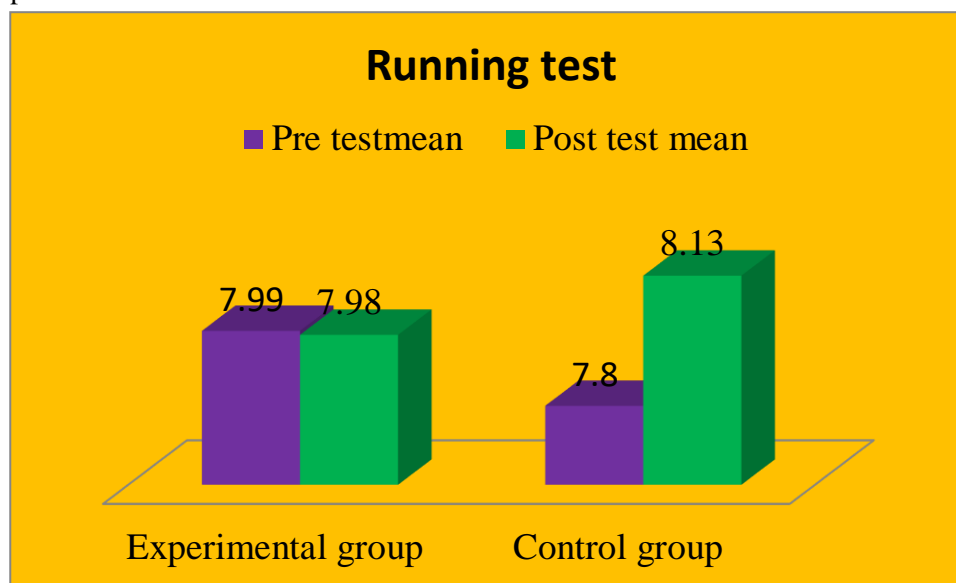


FIG. 1; PRE AND POST TESTS MEAN VALUES OF FUNDAMENTAL MOVEMENT SKILL AND CONTROL GROUPS ON RUNNING TEST (30 MTS RUNNING TEST IN SECONDS)

### Throwing

The mean value of t-test on throwing (children play softball) of pre and posttests scores of fundamental movement skill variables and control groups have been analyzed and presented in table 2.

Table2: The Mean Value of Pre and Post Tests Scores of fundamental movement skill group and Control Groups on throwing (children play softball)

Group	Pre Mean	Post Mean	Obtained t-ratio
FMS Group	2.46	2.62	6.15*
SD±	0.18	0.22	
Control Group	2.46	2.45	0.28
SD±	0.18	0.14	

\*Significant at .05 level. (The table value required for 0.05 level of significance with df 19 is 2.09)

The table 2 show that the pre-test mean value of fundamental movement skill and control groups are 2.46 and 2.46 respectively and the posttest means are 2.62 and 2.45 respectively. The obtained dependent t-ratio values between the pre and posttests means of fundamental movement skill and control groups are 6.15 and 0.28 respectively. The table value required for significant difference with df 1 and 19 at 0.05 level is 2.09. Since, the obtained 't' ratio value of fundamental movement skill group was greater than the table value, it is understood that fundamental movement skill group had significantly improved on height & weight, fundamental movement skill throwing (children play softball). However, the control group had not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training (height & weight).

The bar diagram shows the mean values of pre and post tests on running test of fundamental movement skill and control groups

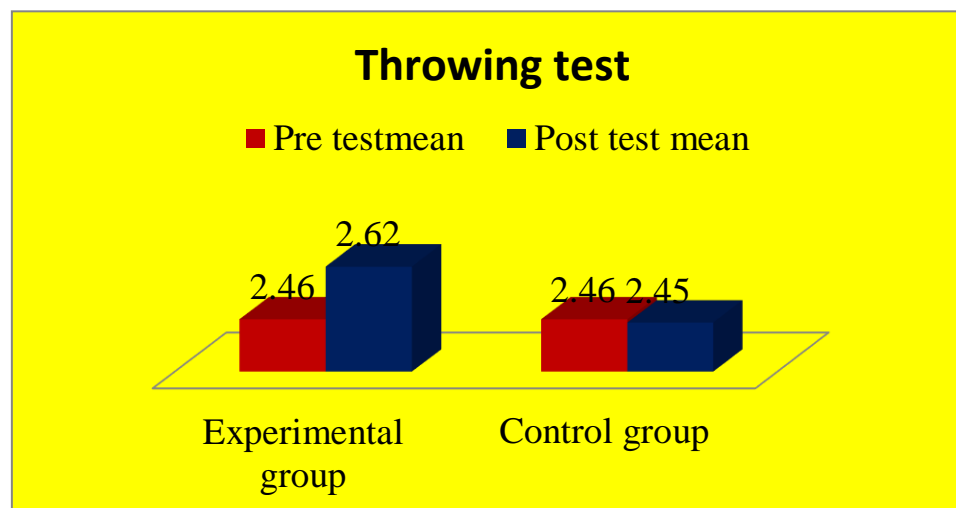


FIG. 1; PRE AND POST TESTS MEAN VALUES OF FUNDAMENTAL MOVEMENT SKILL AND CONTROL GROUPS ON THROWING TEST (CHILDREN PLAY SOFTBALL THROWING IN METERS)

### 5 Conclusions

1. There was significant improvement on fundamental movement skill variables running due to the influence of height and weight among rural school children.
2. There was significant improvement on fundamental movement skill variables throwing due to the influence of height and weight among rural school children.
3. However the control group had not shown any significant improvement on any of the selected variables.

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