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## **ANALYSIS OF ACADEMIC ACHIEVEMENT ON SELECTED MOTOR SKILL RELATED PERFORMANCE AMONG THE EIGHTH GRADE RESPONDENTS**

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### **ABSTRACT**

*The purpose of the study was designed to find out the analysis of academic achievement on selected motor skills related performance among the eighth grade respondents. During the academic year 2012 – 2013, 30 boys and 30 girls studying in government higher secondary school, chidambaram, Tamilnadu, India were selected to achieve the purpose of the study. They were selected based on their academic achievement in the quarterly examination as above average, average and below average achievers making up a total of 60 respondents. The age of the respondents ranges from 12 to 14 years. The academic achievement of the respondents in the quarterly examination was considered as independent variables for this study. The criterion variables selected for the study are motor skills related performance such as shuttle run and stroke stand. The data were statistically analyzed by using Two Way (2x3) Analysis of Variance (ANOVA) for evaluating the influence of the two criterion variables. The obtained results have three F- ratio, two for main effect; the first F- ratio for rows (referring to gender) and columns (referring to academic achievement) and one for interaction (referring to the gender and academic achievement). The obtained F- ratio for column (referring to the gender and academic achievement) was significant. Scheffe's Test was used as Post Hoc Test separately for column to find out the significant difference between paired mean. In all the conditions, the significant level was fixed as 0.05 level, which was considered to be appropriate. The result reveals that there existed significant difference between the above average achievers and average achievers; above average achievers and below average achievers; and average achievers and below average achievers of gender on agility. Hence it also reveals that there was no significant difference between average achievers and below average achievers; and above average achievers and average achievers of gender on agility. Among the different academic achievement irrespective of gender, the results indicated that there was no significant difference on balance. Further, it also reveals that there existed no significant difference on balance among the gender at different academic achievement.*

**Key Words:** *Agility, Balance and Academic achievement.*

### **INTRODUCTION**

Educational task is to implant a desire and facilitate learning. It is an ability to evaluate information and to predict future outcome; it also helps to develop mental and physical skills, motor thinking, communication and social aesthetic

according to **Tanjea (1989)** the academic performance in a school is a standardized series of educational test and the performance is the action of a person or group when given a learning task. During that period of life it's referred to as that school learning is no longer casual. Children

engaged in daily physical education show superior motor fitness, academic performance and attitude towards school as compared to their counterparts who do not participate in daily physical activity. Many students in a private school do not attend regular classes of physical education. We should insist them to engage the classes to make their body fit, so that it gives more confidence, healthy body and mind to boost academic achievement. Physical activity is essential in promoting normal growth and mental functioning. **Pollatschek.J and Hagen.F (1996)**. The benefit of motor fitness is that it contributes to the improvement of posture appearance through the development of proper muscle tone, greater tone flexibility and a feeling of well being. **Willam Prentice (1994)**. A physical activity on the ground helps a child to develop certain physical attributes like good posture, movement, anticipation, improving hand and eye coordination **Kalyal Ashok (2011)**.

## METHODOLOGY

### Selection of Subjects

The purpose of the study was designed to find out the analysis of academic achievement on selected motor skill related performance among the eighth grade respondents. During the academic year 2012 – 2013, 30 boys and 30 girls studying in a government higher secondary school, chidambaram, Tamilnadu, India were selected to achieve the purpose of the study. They were selected based on their academic achievement in the quarterly examination marks as above average, average and below average achievers to a total of 60 respondents. The age of the respondents ranged from 12 to 14 years. The academic achievement of the respondents in the quarterly examination marks was considered as independent variables for this study. The respondents who scored 60

percent to 70 percent in the quarterly examination were considered as above average achievers; respondents who scored 50 percent to 60 percent in the quarterly examination were considered as average achievers and respondents who scored 40 percent to 50 percent in the quarterly examination were considered as below average achievers. The following criterion variables selected for the study are motor skill related performance such as shuttle run and stroke stand. The data pertaining to the study were collected from the respondents with the help of standard test items mentioned in Table – I. The data were statistically analyzed by using Two Way (2x3) Analysis of Variance (ANOVA) which was used to evaluate the influence of the two criterion variables. The obtained results have three F- ratio, two for main effect; the first F- ratio for rows (referring to gender) and columns (referring to academic achievement) and one for interaction (referring to the gender and academic achievement). The F- ratio for rows tests the significant difference, if any, among the gender irrespective of academic achievement in each dependent variable. The F- ratios for column analysis tests the significant difference, if any, among the respondents of academic achievement irrespective of gender in each dependent variables separately. The F- ratio for interaction compares the means for gender of the selected dependent variables among the academic achievement and was selected for this study. The obtained F- ratio for column (referring to the gender and academic achievement) was significant. Scheffe's Test which was used as Post Hoc Test separately for column to find out the difference between paired mean were significant. In all the conditions, the significant level was fixed as 0.05 levels, which was considered to be appropriate.

**Table – I**  
**Selection of Variables and Test Items**

Criterion Variables				
Independent variables			Dependent Variables	
Gender			Motor skill related performance	
Boys	Girls			
Academic achievement				
Above average achievers (Respondents those who scored 60 percent to 70 percent)	Average achievers (Respondents those who scored 50 percent to 60 percent)	Below average achievers (Respondents those who scored 40 percent to 50 percent)	Agility Shuttle run	Balance Stroke stand

### Statistical Analysis

The data collected from the respondents on selected motor skill related performance and academic achievement was analyzed and presented in the following tables.

### AGILITY

The data on agility were analyzed by Two Way Analysis of Variance (2x3) and the obtained results were presented in Table – II

**Table – II**  
**Summary of Two Way Anova on Agility of Gender at Above Average, Average Achievers and Below Average Achievers of Academic Achievement**

Source of variance	Sum of square	df	Mean square	F - Ratio
Rows (Gender)	11.983	1	11.983	18.034*
Columns (Academic achievement)	5.546	2	2.773	4.173*
Interaction (Gender and Academic achievement)	1.121	2	0.561	0.844
Within ( Error)	35.882	54	0.664	
Total	55.056	59		

\*Significance at 0.05 level of confidence.

(The Table value required for significance at 0.05 level with df 1 & 54 is 4.02; df 2 & 54 is 3.18).

Table - II shows that the F – ratio of Rows for gender irrespective of academic achievers is 18.034 against the table value 4.02 (df 1 and 54) which is significant at 0.05 level of confidence. It implies that there is significant difference between the boys and girls irrespective of academic achievement on agility. From the above

table it is inferred that the F- ratio of columns for academic achievement irrespective of gender is 4.173 against the table value of 4.02 (df 1 and 54) which is significant at 0.05 level of confidence.

It implies that there is significant difference between the respondents of academic achievers such as above average

achievers, average achievers and below average achievers irrespective of gender on power. Further, individual mean comparison among the respondents of academic achievement levels were also made for interpretation by using the Scheffe's Post Hoc Test was employed and presented in the Table –III. The table II also reveals that the

F- ratio of Interaction for gender and academic achievement is 0.844 against the table values 3.18 (df 2 and 54) which is not significant at 0.05 level of confidence. It implies that boys and girls at different academic achievers do not differ significantly on agility.

**Table – III**  
**Summary of Paired Mean Difference between the Different Levels of Academic Achievement (Columns) Of Gender (Respondents) On Agility**

Gender	Above average achievers	Average achievers	Below average achievers	Mean difference	C.I
Boys	18.08	18.44		0.36*	0.03
	18.08		17.41	0.67*	0.03
		18.44	17.41	1.03*	0.03
Girls	19.01	18.99		0.02	0.03
	19.01		18.62	0.39*	0.03
		18.99	18.62	0.37*	0.03

The above table indicates that the paired mean differences of gender on power between above average achievers and average achievers values was 0.36; above average achievers and below average achievers values was 0.67 and 0.39 and average achievers and below average achievers values was 0.37 respectively. The mean difference between above average achievers and average achievers; above average achievers and below average achievers; and average achievers and below average achievers was greater than the C.I values of 0.03. Hence it is inferred that there existed significant difference between the

above pairs on agility. Further it is also indicated from the table that the paired mean difference of girls between the above average achievers and average achievers was 0.02 which was less than the table values of 2.92. Hence it is understood that the existed no significant difference among the above pairs on agility.

#### **BALANCE**

The data on balance were analyzed by Two Way Analysis of Variance (2x3) and the obtained results were presented in Table – IV

**Table – IV**  
**Summary of Two Way Anova on Balance of Gender at Above Average, Average Achievers and Below Average Achievers of Academic Achievement**

Source of variance	Sum of square	df	Mean square	F - Ratio
Rows (Gender)	10.239	1	10.239	0.036
Columns (Academic achievement)	29.616	2	14.808	0.052
Interaction (Gender and Academic achievement)	4.115	2	2.057	0.007
Within (Error)	15297.522	54	283.287	
Total	15340.696	59		

(The Table value required for significance at 0.05 level with df 1 & 54 is 4.02; df 2 & 54 is 3.18).

Table - IV shows that the F –ratio of Rows for gender irrespective of academic achievers is 0.036 against the table value 4.02 (df 1 and 54) which is no significant at 0.05 level of confidence. It implies that there is no significant difference between the boys and girls irrespective of academic achievement on balance. From the above table it is inferred that the F- ratio of columns for academic achievement irrespective of gender is 0.052 against the table value of 4.02 (df 1 and 54) which is not significant at 0.05 level of confidence. It implies that there is no significant difference between the respondents of academic achievers such as above average achievers, average achievers and below average achievers irrespective of gender on balance. The table IV also reveals that the F- ratio of Interaction for gender and academic achievement is 0.007 against the table values 3.18 (df 2 and 54) which is not significant at 0.05 level of confidence. It implies that boys and girls at different academic achievers do not differ significantly on balance.

## DISCUSSION ON FINDINGS

From the analysis of data, it is found that there existed significant difference between the above average achievers and average achievers; above average achievers and below average achievers; and average achievers and below average achievers of gender on agility. **Feritas.D (2007)** suggested that there were positive correlation between the agility with academic performance.

**Chandrasekaran.C (2012)** indicates that there is more positive significant difference between the agility and academic performance among the football players. **Hillman.C.H, Castelli.DM (2010)** suggested that from this study, the results showed that the regular practice of physical activity increases cognitive ability of third and fifth grade respondents. Hence, it also reveals that there was no significant difference between average achievers and below average achievers; and above average achievers and average achievers of gender on agility. The results indicate that there was no significant difference on balance among the different academic achievement irrespective of gender. Further, it also

reveals that there existed no significant difference between gender irrespective of different academic achievement on balance and also no significant difference on balance among the gender at difference academic achievement. **Jimmy Byrd (2000)** suggested that there is negative relationship between the physical activity and academic achievement among elementary students. Hence, the researches show the results of the present study that girls and boys have equal motor fitness abilities with academic achievement. But particularly, there is more significant difference on agility when compared to balance of criterion variables.

### CONCLUSION

1. There existed a significant difference between the above average achievers and average achievers; above average achievers and below average achievers; and average achievers and below average achievers of gender on agility.
2. There was no significant difference between above average achievers and average achievers of gender on agility.
3. There was no significant difference on balance among the different academic achievement irrespective of gender.
4. There was no significant difference between genders irrespective of different academic achievement on balance.
5. There was no significant difference on balance among the gender at different academic achievement.

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