

ANALYSIS OF BREATH HOLDING TIME AMONG GOVERNMENT SCHOOL STUDENTS, GOVERNMENT AIDED SCHOOL STUDENTS AND SPORTS HOSTEL SCHOOL STUDENTS OF NORTH KARNATAKA STATE

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Abstract

The purpose of the study was to analysis of breath holding time among Government, Government Aided and Sports Hostel School students of North Karnataka State. To achieve this purpose, one hundred and twenty (N=120) athletes who had participated in the inter-school competition in north Karnataka State during the year 2014-2015 were selected randomly from each category of Government School, Government Aided School and Sports Hostel thus a total of 120 athletes from the selected School in North Karnataka State. The athletes' age ranged between 16 and 18 years. Among various physiological parameters breath holding time only selected as dependent variables and it was assessed by Manuel method. All the subjects were tested on the selected dependent variables. The data were collected from the Government School, Government Aided School and Sports Hostel Students who had participated in the inter-collegiate tournament in North Karnataka State. The experimental design for the study was static group comparison design. One-way Analysis of variance (ANOVA) was used to find out the difference among the Government School, Government Aided School and Sports Hostel Students on the selected variable. As the obtained F-ratio was significant, the Scheffe's test was used as a post-hoc test to find out the significant difference between each cell. In all the cases, 0.05 level of significance was used to test the hypotheses. The results of the study showed that there was a significant difference among Government School, Government Aided School and Sports Hostel Students on the selected Physiological Parameter such as Breath Holding Time. Further the results of the study showed that Sports hostel students was better than Government school students and government aided school students of North Karnataka State.

Keywords: Breath Holding Time, Government, Government Aided and Sports Hostel

Introduction

Nowadays, sports have become a competitive activity in all over the world. Every country shows their supremacy or superiority through by sports competition. The goal of today's competitions in sports is to exhibit one's excellence and to win. There are numerous factors which are responsible for winning a competition. The performance of the sportsman in individual and team games is dependent on various factors like nutrition, skills, physical growth, scientific trainings, and some physiological and biological factors. Like these factors, the percent body fat also play a significant role in an excellent sports performance. Fitness is that state which characterizes the degree to which a person is able to function. Fitness is an individual matter. It implies the ability of each person to live most effectively with his potential. Ability to function depends upon the physical, mental, emotional, social, spiritual and cultural components of fitness, all of which are related to each other and the mutually inter dependent (Barrow and McGee, 1973). Physical educators are mainly responsible for promoting the physical aspect as the above said total fitness, in harmony with all the other aspects of fitness, "Physical fitness is the utilization of excessive calories by a cardio vascular and muscular process bringing the body to optimum efficiency" (Andrian, 1988). It is the number of breaths taken in a minute or number of inspirations and expirations in a minute. Basic change in respiratory function during exercise is increase in ventilation and cardiac output. During mild exercise, rise in CO₂ tension in blood stimulates carotid sinus reflex and respiratory center causing increased pulmonary ventilation, which prevents further rise of CO₂ in alveoli. A sort of equilibrium is reached between the effect of increased CO₂ tension in arterial

blood and that of increased respiratory activity in lowering CO₂ tension. (Rajendrakumar, 2012).

Methodology

To achieve this purpose, one hundred and twenty (N=120) athletes who had participated in the inter-school competition in North Karnataka State during the year 2014-2015 were selected randomly from each category of Government School, Government Aided School and Sports Hostel. The athletes' age ranged between 16 and 18 years. Among various physiological parameters breath holding time only selected as dependent variables and it was assessed by Manuel method. The data were collected from the Government School, Government Aided School and Sports Hostel Students who had participated in the inter-collegiate tournament in North Karnataka State. The experimental design for the study was static group comparison design. One-way Analysis of variance (ANOVA) was used to find out the difference among the Government School, Government Aided School and Sports Hostel Students on the selected variable. As the obtained F-ratio was significant, the Scheffe's test was used as a post-hoc test to find out the significant difference between each cell. In all the cases, 0.05 level of significance was used to test the hypotheses.

Analysis of the data

The analysis of variance for the data obtained on Breath Holding Time of Government School Students, Government Aided School Students and Sports Hostel Students were analyzed and the results are presented in Table -I.

Table-I

Analysis of variance on breath holding time of government school students, government aided school students and sports hostel students

Mean \pm Standard Deviation			Sources of Variance	df	Sum of Squares	Mean Square	Obtained "F"
Government School Students	Government Aided School Students	Sports Hostel Students					
31.73 ± 1.91	32.35 ± 2.26	33.88 ± 2.44	SSB	3	97.85	48.93	9.98*
			SSW	117	573.45	4.90	

***Significant at 0.05 level.**

(Breath Holding Time Scores is in Numbers/seconds)

(The table value required for significance at 0.05 level with df2 and 117 is 3.07)

Table-I shows that the mean and standard deviation values on Breath Holding Time of Government School Students, Government Aided School Students and Sports Hostel Students are 31.73 ± 1.91 , 32.35 ± 2.26 and 33.88 ± 2.44 respectively. The obtained F-ratio value among Government School Students, Government Aided School Students and Sports Hostel Students is 9.98. The obtained F-ratio value is greater than the table value of 3.07 with df 2 and 117

required for significance at 0.05 level. The results of the study indicate that there is a significant difference among the means of Government School Students, Government Aided School Students and Sports Hostel Students on Breath Holding Time. To find out which of the four paired means had a significant difference, the Scheffe's post-hoc test was applied and the results are presented in Table-II.

Table-II

Scheffe's test for the differences between the paired means of government school students, government aided school students and sports hostel students on breath holding time

Adjusted Post-test Means			Mean Difference	Confidence Interval
Government School Students	Government Aided School Students	Sports Hostel Students		
31.73	32.35		0.62*	0.48
31.73		33.88	2.15*	0.48
	32.35	33.88	1.53*	0.48

***Significant at 0.05 level.**

Table- II shows that the mean difference in Breath Holding Time between Government School Students and Government Aided School Students, Government School Students and Sports Hostel Students, Government Aided School and Sports Hostel Students are 0.62, 2.15 and 1.53 respectively, which are higher than the confidence interval value of 0.05 at 0.48 level of confidence. The result of the study indicates that there is a significant difference between Government School Students and Government Aided School Students, Government School Students and Sports Hostel Students, Government Aided School and Sports Hostel Students on Breath Holding Time. However, the mean value of Sports Hostel Students is found to be higher than Government School Students and Government Aided School Students on Breath Holding Time. The mean values of Government School Students, Government Aided School Students and Sports Hostel Students on Breath Holding Time are graphically represented in the Figure -I.

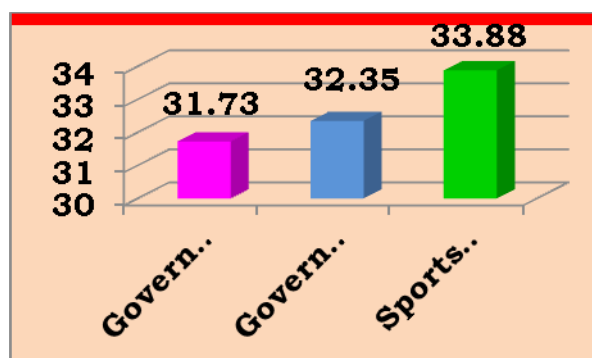


Figure- I:
mean values of government school students, government aided school students and sports hostel students on breath holding time (in numbers/seconds)

Conclusion

From the analysis of the data, the following conclusions were drawn. There was a significant difference among Government

School, Government Aided School and Sports Hostel Students on the selected Physiological Parameter such as Breath Holding Time. Further the results of the study showed that Sports hostel students was better Breath Holding Time when compare to the Government school students and government aided school students of North Karnataka State.

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