COMPARATIVE STUDY OF SELECTED PHYSICAL FITNESS VARIABLES BETWEEN GOVERNMENT AND PRIVATE SCHOOL BOYS AND GIRLS

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Abstract:

The purpose of this study was to compare the selected health related physical fitness variables between Government and private school Boys and Girls aged 7 to 9 years old. The study was conducted on 150 boys and 150 girls for the comparison of selected health related physical fitness variables. The selected variables for the study were flexibility (sit and reach test) lower body explosive strength (standing broad jump), upper body strength endurance (flex arm hang) and cardiovascular endurance (Reduced cooper test). T-test was used to find out the significant difference among different disciplines. It was concluded that there was significant differences between Government and private school Boys and Girls in flexibility (sit and reach test), lower body explosive strength (standing broad jump) and upper body strength endurance (flex arm hang). The significance difference was not found on cardiovascular endurance variable. Government and private school girls have better flexibility than boys but boys have better lower body explosive strength, upper body strength endurance and cardiovascular endurance than girls.

Keywords: Flexibility; Explosive strength; Strength endurance; cardiovascular endurance.

Introduction

The overall prevalence of overweight and obese children in Tamilnadu is higher than in other states. Also boys performed significantly better on cardio respiratory fitness tests than girls did. The children who are physically active have a significantly higher cardio respiratory fitness level than those who are inactive. Given the high prevalence of childhood obesity, improving the cardio respiratory fitness level of children could dramatically improve public health. Further studies should elucidate such complex relationships by incorporating a level of physical activity and including data on dietary intake, puberty and socioeconomic status. Physical activity is an important for improving cardio respiratory fitness than inactive ones.

Purpose of the study:

The purpose of this study was to compare the study of selected physical fitness variables between government and private school boys and girls.

Methodology

Selection of Subjects

150 primary school going boys and 150 primary school going girls from Coimbatore district in Tamilnadu were selected aged 7 to 9 years old. All subjects were arranged in a randomly. Total subjects were 300 and all of the subjects live at village. All of 300 primary school going students were born in daily laborer peasant family.

Selection of the Variables and criterion measures

Following variables were selected for the purpose of the study:

S.No	Variables	Test	Unit of measures
1	Cardiovascular Endurance	Cooper test	In Meters

2	Lower Body Explosive	Standing Broad Jump	In Centimeters
	strength		
3	Upper Body Strength and Endurance	Flex arm hang	In Seconds
4	Flexibility	Sit and reach test	In Centimeters

Statistical Techniques

Mean, Std.Deviation and t-test were used to find the significant difference between the two groups. The level of significance was set at 0.05.The data was calculated by using SPSS statistical software

Result and findings of the study

A perusal of Table-1 and Table-2 indicate a statistical result of this study. Mean, Standard Deviation, Std. Error Mean and 'T'-test were used as statistical analyses which were presented in these Tables. The mean of age, weight and height of Government and Private school boys were 7-9 years, 23.23 kg and 126.71 cm but the mean of age, weight and height of girls were 7-9 years 21.99 kg and125.85 cm respectively. The mean and SD of age, height and weight of Government and Private school children has been given in the Table-1. The mean values of flexibility, explosive strength, strength endurance and cardiovascular Endurance of boys are 23.25 cm, 146.28 cm 26.03 sec and 1087.07m. On the other hand, the mean values of flexibility, explosive strength, strength endurance and cardiovascular Endurance of girls are 24.47 cm,133.46 cm 17.05 sec and 1029.23m respectively presented in the Table-2.

Category	Gender	Ν	Mean	Std. Deviation	Std. Error Mean
Age	Boys	150	7.96	0.66	0.05
_	Girls	150	7.96	0.73	0.05
Weight	Boys	150	23.23	4.62	0.38
	Girls	150	21.99	4.76	0.38
Height	Boys	150	126.71	8.07	0.66

Table-1 Group Statistic

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	Girls	150	125.85	9.62	0.77	

Table-2 Group Statistic

Category	Gender	Ν	Mean	Std.	Std. Error
				Deviation	Mean
Cardiovascular	Boys	150	1087.07	120.30	9.88
Endurance	Girls	150	1029.23	83.64	6.69
Lower Body	Boys	150	146.28	19.82	1.62
Explosive	Girls	150	133.46	19.32	1.54
strength					
Upper Body	Boys	150	26.03	15.64	1.28
Strength and	Girls	150	17.05	13.93	1.11
Endurance					
Flexibility	Boys	150	23.25	4.07	0.33
	Girls	150	24.47	4.60	0.36

Figure-1: Graphically comparison of mean differences Lower body Explosive Strength between

Boys and Girls



Figure-2: Graphically comparison of mean differences Upper Body Strength and Endurance between Boys and Girls



Figure-3: Graphically comparison of mean differences Flexibility between Boys and Girls



Figure-4: Graphically comparison of mean differences Cardiovascular Endurance between Boys

and Girls



Discussion

The Statistical findings of the present study revealed that Government and Private school girls have lesser weight than boys. The comparison of mean difference of Lower Body Explosive Strength has showed in figure-1. Boys were significantly longer than girls in both the distance of standing broad jump (146.28) cm versus (133.46) cm. Graphically comparison of mean differences Upper Body Strength and Endurance between boys and girls are presented in figure- 2. Boys were significantly stronger than girls in both the seconds of flexed arm hang (26.03) sec versus (17.05). Boys were better lower body explosive strength and upper body strength endurance than girls. Graphically comparison of mean differences flexibility between boys and girls are presented in figure-3. Girls Flexibility of boys and girls is (23.25) cm versus (24.47) cm. Girls have better flexibility than boys. Boys are taller, heavier and had higher as well as achieved better results in tests of explosive strength and muscles endurance than girls. 150 Government and Private school boys were more involved in games than girls and also they help their parents in the field for cultivation. So, the boys are more physically active than girls. Participation in physical sports activity may positively influence cognitive performance in adolescents. The comparison of mean difference of cardiovascular endurance between boys and girls is presented in Figure-4. The distance or reduced cooper test of boys and girls is 1087.07 m versus 1029.23m. The cardiovascular endurance in boys is also better than girls.

Conclusion

On the basis of the result it can be concluded that Government and private school boys have better lower body explosive strength, upper body strength endurance and cardiovascular endurance than Government and Private school girls. Government and private school girls have better flexibility than boys.

REFERENCES

A. Grund, B. Dilba, K. Forberger, H.Krause, M. Siewers, H. Rieckert, Relationships between physical activity, physical fitness, muscle strength and nutritional state in 5-to 11-year-old children, European Journal of applied physiology, 82 (2000) 425-438.

D. Novak, H.Podner, A. Emeljanovas, R. Marttinen, Comparison of Fitness Levels betweenCroatian and Lithuanian Students, Montenegrin journal of sports science and medicine, 4 (2015)5-12.

E. Hrazdira, P. Grasgruber, T.Kalina, The comparison of flexibility in the Czech population aged 18-59 years, Journal of Human sports & Exercise, 8 (2013)s135.

J.C. Eisenmann, G.J. Welk, E.E. Wickel, S.N. Blair, Combined influence of cardiorespiratory fitness and body mass index on cardiovascular disease risk factors among 8-18 year old youth: The Aerobics Center Longitudinal Study, International Journal of pediatric obesity, 2 (2007)66-72.

J.R. Ruiz, F.B. Ortega, R. Castillo, M. Martin-Matillas, L. Kwak, G. Vicente-Rodriguea, J. Noriega, P. Tercedor, M. Sjöström, L.A. Moreno, AVENA Study Group, Physical activity, fitness, weight status, and cognitive performance in adolescents, The Journal of Pediatrics, 157 (2010) 917-922.

L.O. Amusa, D.T. Goon, A.K. Amey, A.L. Toriola, Health-related physical fitness among rural primary school children in Tshannda, South Africa, Scientific Research and Essays,6 (2011) 4665-4680.

M.L. Boddy, J.S. Fairclough, G. Atkinson, G. Stratton, Changes in cardiorespiratory fitness in 9-to 10.9-year-old children: SportsLinx 1998-2010, Medicine & Science in Sports & Exercise, 44 (2012) 481-6.

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O.D. Valdivia, M.A. Canada, F.Z. Ortega, J.J, Rodrigues, M.F. Sanchez, Changes in flexibility according to gender and educational stage, Apunts Medical Esport, 161 (2009) 10-17.

P.L. Hsieh, M.L. Chen, C.M. Huang, W.C. Chen, C.H. Li, L.C. Chang, Physical activity, body mass index, and cardiorespiratory fitness among school children in Taiwan: a cross-sectional study, International Journal of Environmental Research and Public Health, 7 (2014)7275-85.

S. Gontarev, K. Ruzdija, The Association of Weight Status with Physical Fitness among Macedonian Children, Advances in Life Sciences and Health, 2 (2015)79-90.