International Journal of Multidisciplinary and Current Research

Research Article

ISSN: 2321-3124
Available at: http://ijmcr.com

Comparative Analysis of Explosive Strength and Muscular Strength among Government Semi Government and Non-Government School Boys

Aditya Kumar Das[1*] Shankar Rao Munjam[2] P. K. Subramaniam[3]

[1]Ph.D Scholar, Department of Physical Education & Sports, Pondicherry University. India
[2]Ph.D Scholar, Department of Mathematic, Pondicherry University. India
[3]Professor, Department of Physical Education & Sports, Pondicherry University. India

Accepted 01 March2014, Available online 01 April 2014, **Vol.2 (March/April 2014 issue)**

Abstract

The present study was undertaken to analyze the explosive strength [ES] and muscular strength [MS] of government [GSG] semi government [SGSG] and non-government [NGSG] school boys. The researcher selected [N=150] school boys [GSG: n=50; age mean: 14.64±1.90], [SGSG: n=50; age Mean: 14.96±0.80] and [NGSG: n=50 age Mean: 14.28±1.06] from in around the Adilabad District of Andhra Pradesh, India. The collected data were evaluated by one way analysis of Variance [ANOVA]. The level of significant was fixed at 0.05 level. Where ever the 'F' ratio found significant Scheffe's post hoc test was used for find out the significant differences among the mean. The result of the study reveals that GSG is better than the SGSG and NGSG in respect of ES and MS.

Keywords: *Explosive strength; Muscular strength; Mean.*

1. Introduction

Exercise or movement has a suppressive effect upon cancer. Our bodies demand to be used. Failure to use them results in your muscles deteriorating, at a steady and progressive rate. Thus, everyone should develop good, sensible habits of exercise that they can stick to for the rest of their lives **[1].** The objective of the exercise is to improve physical fitness. For healthy life attention should pay to four different kinds of exercise such as aerobics anaerobic, active lifestyle, and functional exercises **[2].** Exercise and physical activity impact upon your wellness and fitness **[3].**

Strength is the ability to exert force or the ability to do work against resistance Muscular strength is inversely connected with incidence of hypertension, mortality and diabetes mellitus, these associations are independent of associations with cardio respiratory fitness **[4].**The benefits of habitual resistance exercise are well documented and include increases in muscle hypertrophy and muscular strength **[5].** Physical activity spectrum, chronic exercise training increases muscle strength and function and enhances the ability of the muscles to resist fatigue in healthy individuals and patients of all ages **[6].** Explosive strength represents the ability which allows an athlete maximum acceleration of his body toward an object or a partner **[7].**

2. Objectives of the study

- To investigate the physical activities curriculum of school boys of government semi government and non-government secondary school boys.
- To find out the significant differences in physical activities of government semi government and non-government school boys.

3. Statement of the problem

The purpose of the study was to analyze the explosive strength and muscular strength of government semi government and non-government school boys.

4. Hypotheses

- It was hypotheses that there would be significant difference in explosive strength among government semi government and non-government school boys.
- It was hypotheses that there would be significant difference in muscular strength among government semi government and non-government school boys.

5. Methodology

To achieve the purpose of the study the investigator selected [N=150] school boys. Government school [GSG: n=50], Semi Government School [SGS: n=50] and Non-Government School [NGSG: n=50] were selected at random from in an around the Adilabad District of Andhra

Pradesh, India. Their age GSG [Mean: 14.64±1.90], SGSG [Mean: 14.96±0.80] and NGSG [Mean: 14.28±1.06] based on their school record. Since the subject selected for the study belonged to the different area in Adilabad District of Andhra Pradesh. They considered to be representative samples. All the selected samples are were day scholars. The selected subjects were tested on explosive strength and muscular strength. To measure the explosive strength and muscular strength Standing broad Jump [In Centimeters] and Pull-Ups [In Numbers] test was administrated because of their simplicity and availability of necessary facilities.

6. Statistical Analysis

The analysis of data on explosive strength and muscular strength have been evaluated by one way analysis of Variance [ANOVA] for each variable to determine the differences if any among the group. When the differences were found to be significant by ANOVA, the scheffe's post hoc test was applied to examine the significant differences between the mean.

Table I: One way Analysis of Variance on Explosive strength of Government, Semi Government and Government School boys

GSG	174.16	2.23
SGSG	166.2	1.42
NGSG	162.76	1.45
SOV	B	W
Sum of Square	3338.65	1027.22
df	2	147
Mean Square	1669.32	69.87
'F' Ratio	23.89*	

**Significant at 0.05 level*
(The table value required for significant at 0.05 level of confidence with df 2 and 147 are 3.04)

The above table shows there is a significant difference in explosive strength among the three groups such as GSG, SGSG and NGSG. Since the calculated 'F' Value on explosive strength is 23.89 greater than the tabular value of 3.04 with df 2 and 147.

Table II: Scheffe's Post Hoc Test for Differences between the Paired Mean on Explosive Strength among Government, Semi Government and Non-Government School boys.

GSG	SGSG	NGSG	MD	CI Value
174.16	166.82	-	7.34*	4.10
174.16	-	162.76	11.40*	4.10
-	166.82	162.76	4.06*	4.10

**Significant at 0.05 level*

The above table indicated that there is an significant mean differences on explosive strength among GSG and SGSG, GSG and NGSC and SGSG and NGSG in relation to explosive strength.

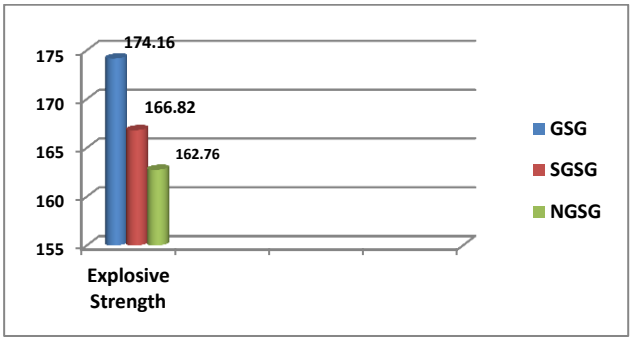

Figure 1: Bar diagram showing the mean values of GSG, SGSG and NGSG on explosive strength

Table III: One way Analysis of Variance on Muscular strength of Government, Semi Government and Non-Government School boys

	Mean	SD
GSG	8.96	1
SGSG	5.94	0.76
NGSG	5.84	0.76
SOV	B	W
Sum of Square	314.41	107.46
df	2	147
Mean Square	157.2	0.731
'F' Ratio		215.05*

**Significant at 0.05 level*
(The table value required for significant at 0.05 level of confidence with df 2 and 147 are 3.04)

The above table shows that there is a significant difference in Muscular strength among the three groups such as GSG, SGSG and NGSG. Since the calculated 'F' Value on muscular strength is 215.05 greater than the tabular value of 3.04 with df 2 and 147.

Table IV: Scheffe's Post Hoc Test for Differences between the Paired Mean on Muscular Strength among Government, Semi Government and Non-Government School boys

GSG	SGSG	NGSG	MD	CI Value
8.96	5.94	-	3.02*	0.42
8.96	-	5.84	3.12*	0.42
-	5.94	5.84	0.10 (NS)	0.42

**Significant at 0.05 level*

The table IV indicated that there is a significant mean difference on muscular strength among GSG and SGSG and GSG and NGSG. It also observed that there is no significant (NS) difference on mean between SGSG and NGSC in relation to explosive strength.

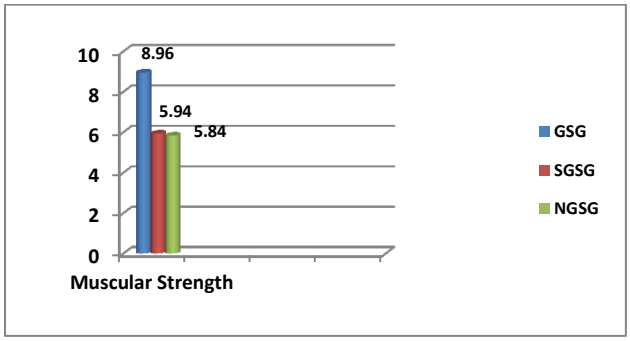

Figure 2: Bar diagram showing the mean values of GSG, SGSG and NGSC on Muscular strength

7. Discussion on hypothesis

- The first hypothesis says that there will be significant differences in explosive strength among the GSG, SGSG and NGSG. The result of the present study reveals that there is significant differences exist in relation to the explosive strength. Hence the first hypotheses accepted at 0.05 level of confidence.
- The second hypothesis says that there will be significant differences in muscular strength among the GSG, SGSG and NGSG. The result of the present study reveals that there is significant differences exist in relation to the muscular strength. Hence the second hypotheses accepted at 0.05 level of confidence.

8. Discussion on findings

The result of the study shows that there were significant differences founded in explosive strength and muscular strength among the GSG, SGSG and NGSG. The result of the study explore that GSG is better than the SGSG and NGSC. The result of the are in consonance with the findings of the following studies namely *Andreasi et al.,[8], Chillion et al.,[9], Dregva and Vaicaitiene [10], Antan [11]and Albarwani [12].*

9. Conclusion

Based on the statistical evaluation of the study it was concluded that government school boys were statistically significant than the Semi government school boys and Non-Government school boys in relation to the explosive strength and muscular strength.

Acknowledgement

The second author Shankar Rao Munjam wishes to thanks the UGC- Rajiv Gandhi National Fellowship (RGN-SRF), New Delhi, India for providing financial assistance.

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