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# Comparative Study of Selected Motor Fitness Components and Anthropometric Variables of Regular and Ad-Hoc Male Teaching Staff of Guru Ghasidas Vishwavidyalaya Bilaspur

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## Abstract

The aim of the present study was to compare selected motor fitness components and anthropometric variables of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya bilaspur. For the purpose of the present study 40 (forty) male regular and ad-hoc teaching staff (20 from regular teaching staff and 20 from ad-hoc teaching staff) were selected randomly as subject who falls between the age group of 30 to 45 years. Selected motor fitness components and anthropometric variables as hand grip strength was measured by hand grip dynamometer, leg strength was measured by leg dynamometer, back strength was measured by back dynamometer, flexibility was measured by sit-and-reach test, Height was measured by stadiometer and Weight was measured by digital weighing scale. The data was collected to descriptive statistic and student independent "t" test and level of significance was set at 0.05 level. All the statistical analysed was carried out using MS excel and spss 20.0 version. The result of the study indicates that there was an insignificant difference of selected motor fitness components and anthropometric variables of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya bilaspur.

**Key Words:** Hand Grip Strength, Leg Strength, Back Strength, Flexibility, Height and Weight.

## 1. Introduction:

Motor fitness is a part of the general motor ability where mainly the vigorous muscular work capacity is measured irrespective of the sports skill ability and performance. We know that for important in any games or sport its techniques should be first mastered. For improving the techniques to work upon it, it is very important to analysis it to know the motor fitness variables of the technique which must be given due attention for improving that particular technique. The study had been taken to analysis the performance of badminton. So that those variables could be, know this contributes to the effectiveness of the technique. The motor fitness tests are frequently used as a method for evaluating children, adolescence and adults of their motor fitness abilities. Reilly & Franks realized that; test battery used may be useful in establishing baseline reference data for young players being selected onto specialized development programmers. In standing broad jump and 30m sprint among 6-12 years age, especially in age 8-12 years males surpassed their girl counterparts. In conclusion, vertical jump height is most often described as the strongest predictor of sprint performance with increasing maturity, we found that it remained strongly correlated with sprint performance, but less so than stride length, which was a predictive variable for adolescents between 12 and 15 years old**. (Kansal, D.K., 2008)**

The information of anthropometry equips us with the techniques of different body measurements as Like height, body weight, diameters and the skin hold thickness, which ultimately deal with the Development of simple produces for the evaluation of physique and physical fitness rural, not Only help in their general wellbeing but are also expected to from the baseline criterion for screening school boy for appropriate games. Numerous research studies conducted by many scientists have given the characteristics of various sportsmen for specific sports and game, to assist in the talent selection of sportspersons. Correlation between the anthropometric variable and performance, have led to more systematic examination of physical requirements, essential to Gain excellent performance in competition**. (Chauhan, M.S. & Chauhan D.S., 2005).**

Physical fitness is one of the most important aspects in the field of physical education & sports. But physical fitness is not the same with health; it plays an essential role in all aspects of health and fitness because they are very mooch related. Good health provides a solid foundation on which fitness rests and at the same time fitness provides one of the important keys to health and living one's Life to the fullest. Fitness is not a state for the young; it is reality for all ages of persons. Fitness is a product of exercise and training has been shown through research to posse's important implication in the general health of people. Proper nutrition, adequate rest relaxation, health appraisal and good habits are all factors of implementation. The physical fitness is a concept which has both an absolute and a relative meaning. In absolute term the man can run faster, jump heist, lift and handle the heaviest burdens and attain the highest output during a working day, must be most fit the person for the particular activity. On the other hand when considered fitness in a relative term, a person of small size may not be able to complete in weight lifting with a bigger man and his maximum work out put may be much less. But still he may be physiologically most fit. Various researchers suggested that different body size, shape and proportions are beneficial in different physical activities. **(Malhotra, M.S., & Kansal, D.K., et al., 1972).**

## 2. Materials & Methods:

### 2.1 Sample of the Study:

40 (Forty) ) male regular and ad-hoc teaching staff (20 from regular teaching staff and 20 from ad-hoc teaching staff) were selected randomly as subject who falls between the age group of 30 to 45 years.

### 2.2 Selection of Variables:

After reviewing through all the scientific literature, journals, magazine and keeping feasibility criteria in mind following contents related to select motor fitness components and anthropometric Variables were selected for the purpose of the present study.

**Selected Motor Fitness Components:**

- Hand Grip Strength
- Leg Strength
- Back Strength
- Flexibility

**Selected Anthropometric Variables:**

- Height
- Weight

### 2.3 Criterion Measures:

- Hand grip strength measured by Hand Grip dynamometer and score was recorded in kilogram.
- Leg strength measured by Leg dynamometer and score was recorded in kilogram.
- Back strength measured by Back dynamometer and score was recorded in kilogram.
- Flexibility was measured by Sit-and-Reach test and score was recorded in centimeter.
- Height was measured by Stadiometer and score was recorded in centimeter.
- Weight was measured by digital weighing machine and score was recorded in kilogram.

### 2.4 Statistical Technique:

Percentage was used to compare selected motor fitness components and anthropometric variables of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur. Independent samples t-test was employed to compare the selected motor fitness components and anthropometric variables of regular and ad-hoc male teaching staff.

## 3. Results of the Study:

**TABLE: 1**

Mean and S.D. of Selected motor fitness Components and Comparison of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur.

| Variables | Regular Teaching Staff (N=20) | | Ad-hoc Teaching Staff (N=20) | | SED | t-value |
|---|---|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. | | |
| Hand Grip Strength | 26.12 | 7.76 | 28.85 | 7.56 | 2.42 | 1.12 |
| Leg Strength | 82.80 | 23.96 | 79.84 | 20.66 | 7.07 | .41 |
| Back Strength | 68.92 | 23.46 | 63.45 | 19.49 | 6.82 | .80 |
| Flexibility | 14.40 | 7.95 | 21.80 | 6.60 | .9.10 | 1.79 |

**Table: 2**

Mean and S.D. of Selected Anthropometric Variables and Comparison of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur.

| Variables | Regular Teaching Staff (N=20) | | Ad-hoc Teaching Staff (N=20) | | SED | t-value |
|---|---|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. | | |
| Height | 168.51 | 5.96 | 166.76 | 5.71 | 1.84 | .94 |
| Weight | 74.20 | 12.17 | 70.52 | 8.84 | 3.36 | 1.09 |

The results of the selected motor fitness components and Anthropometric Variables of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur are presented in the table 1 & 2. Analysis of data revealed no significant differences were found in any variables such as Hand Grip Strength (1.12), Leg Strength (.41), Back Strength (.80), Flexibility (1.79), Height (.94) and Weight (1.09). Tabulated t-value (2.10) was higher than calculated t-values of any variables. Thus, it may be concluded that the selected motor fitness components and Anthropometric Variables of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur were found to be statistically an insignificant.

**Figure – 1**

Graphical representation of selected motor fitness components and Anthropometric Variables of regular male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur

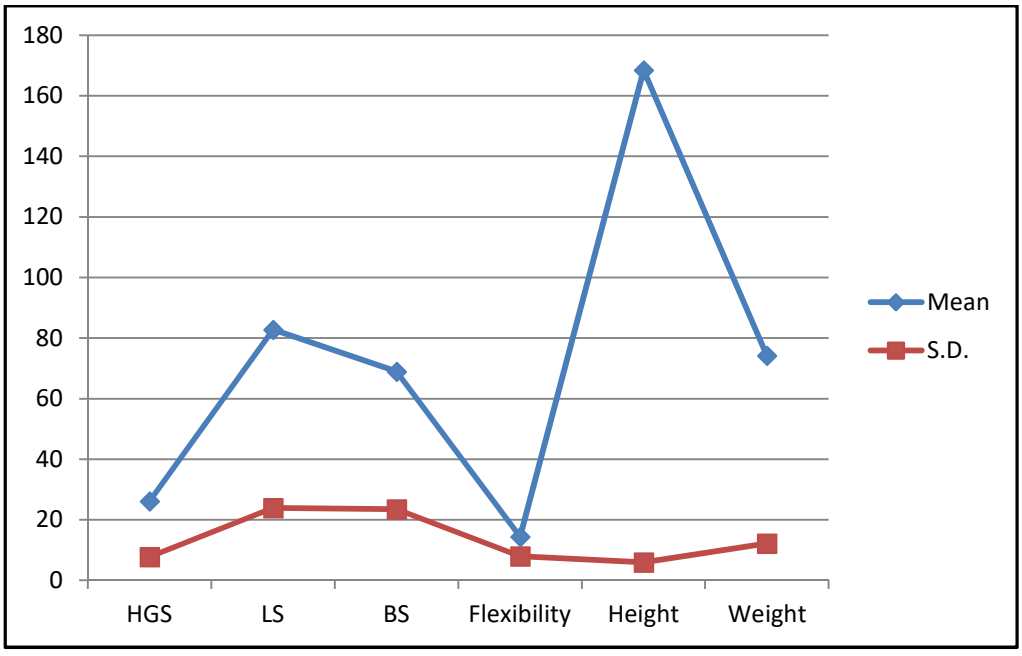
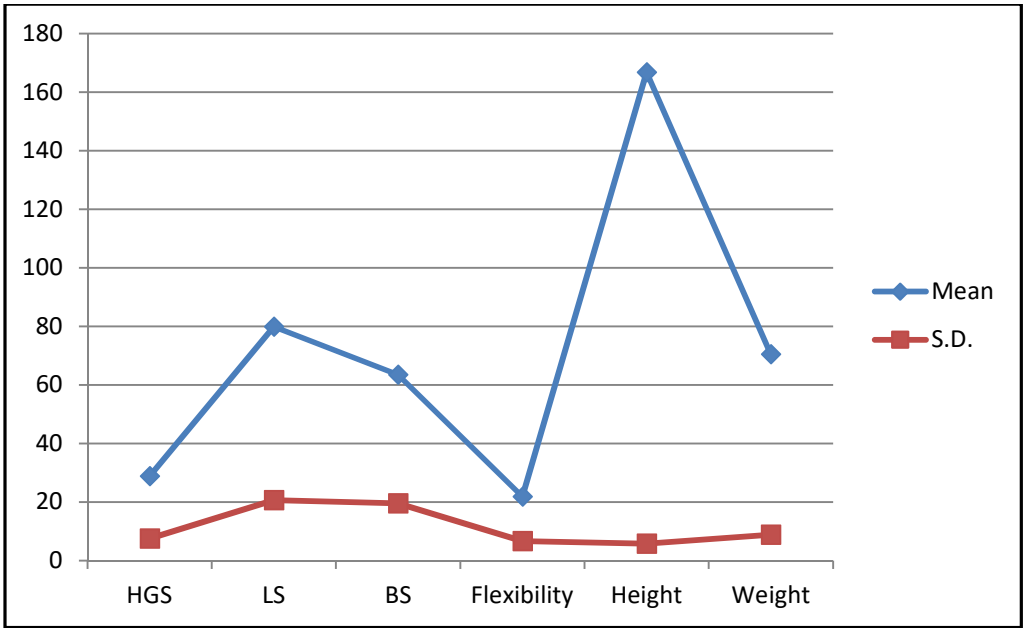


**Figure – 2**

Graphical representation of selected motor fitness components and Anthropometric Variables of Ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur




## 4. Conclusion:

In conclusion, the present study suggests that the selected motor fitness components and anthropometric variables i.e., Hand Grip Strength, Leg Strength, Back Strength, flexibility, Height and Weight of regular and ad-hoc male teaching staff of Guru Ghasidas Vishwavidyalaya Bilaspur were found to be statistically an insignificant.

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