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## A comparative study of selected motor fitness components of teachers belonging to public and private sector of Uttar Pradesh

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### Abstract

The aim of the present study was to compare selected motor fitness components of teachers belonging to public and private sector of Uttar Pradesh. For the purpose of the present study 200 (Two Hundred) male teachers of Uttar Pradesh (100 from public sector and 100 from private sector) were selected randomly as subject who falls between the age group of 30 to 45 years. Selected motor fitness components as Hand grip strength measured by Hand Grip dynamometer, Leg strength measured by Leg dynamometer and Back strength measured by Back dynamometer. The data collected was subjected to descriptive statistic and student independent "t" test and level of significance was set at 0.05 level. The all statistical analyzed was carried out using MS Excel and SPSS 20.0 version. The result of the study indicates that there was a significant difference of selected motor fitness components between public and private sector school teachers of Uttar Pradesh.

**Keywords:** Hand grip strength, back strength, leg strength, public and private sector

### 1. Introduction

Motor fitness is a part of general motor ability where mainly the vigorous muscular work capacity is measured irrespective of the sports skill ability.

Through different training means, the above motor abilities can be trained separately as well as in combination with each other. The requirement of these abilities different from sports to sports and in order to develop these abilities, the sportspersons have to regular participate in general, specific and competitive exercises schedules, which are specific to a sports and games. For example, when a sportsperson works against a registrant, may be resistance to own body, partner, medicine ball, barbell etc. strength is developed. Running at high speed with quick frequency of movement would develop speed. If distance or duration is more, the exercise becomes endurance based. Exercises with complex movements involving eye-hands and eye-foot co-ordination contribute to development of co-coordinative abilities. Static and dynamic stretching exercises lead to development flexibility. Different sports place different demands on the above motor abilities and therefore the coaches should prepare the training programmes for enhancement of motor abilities keeping the specific demands of the sports and games in mind, (According to Kansal, D.K. 2008.)<sup>[4]</sup>.

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. Chiara Milanese *et al.*, (2010)<sup>[3]</sup>.

Strength is perhaps the most important motor ability in sports because all movements in sports are caused by muscle contraction. Therefore, strength is a part and parcel of all motor abilities, technical skills and tactical actions (Uppal, 2000).

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The development of strength has almost certainly been the greatest factor to enhance sports performance. But it is not a new concern. Theories of the best way to build up strength date back at least to ancient Greek time, when Milo reputedly carried a bull calf every day from the day it was born until it was fully grown. As the bull grew and became heavier, Milo's strength levels improved to compensate, in a form of early progressive resistance training, (Paish, 1998).

Strength alone will not assure success in any sports. It is usable strength that is a key, the strength which can be applied to the body to make it move faster, change speed, change the direction of body movement, put a greater speed into a cricket bat or racket head, or make the pull on an oar faster and longer. Hence, while strength is dominant factor one must also call upon skills, mobility and speed. A pupil will not be able to hold the tennis racket as instructed if he does not have sufficient strength. How can a pupil learn to pole vault if he can hold his own weight? Moreover, lack of sufficient strength result in rapid muscular fatigue, which limit the amount of practice time available for learning skills, (Uppal, 2000).

**1.1 Objective of the Study**

The purpose of the study was to compare the selected motor fitness components of teachers belonging to public and private sector.

**2. Methodology**

**2.1 Selection of Subjects**

200 (Two Hundred) male teachers of Uttar Pradesh (100 from public sector and 100 from private sector) 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 selected motor fitness components was selected for the purpose of the present study.

**Selected motor fitness components**

- A. Hand Grip strength
- B. Leg Strength
- C. Back Strength

**2.3 Criterion measures**

- A. Hand grip strength measured by Hand Grip dynamometer.
- B. Leg strength measured by Leg dynamometer.
- C. Back strength measured by Back dynamometer.

**2.4 Statistical analysis of data**

Percentage was used to compare selected motor fitness components of teachers belonging to public and private sector. Independent samples t-test was employed to compare the selected motor fitness components of teachers belonging to public and private sector.

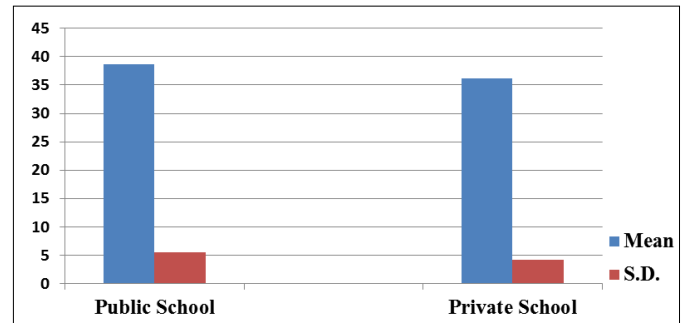
**3. Result and Discussion of the Study**

**Table 1:** Descriptive and Comparative Statistics of Hand Grip Strength of Public and Private Sector School

Groups	N	Mean	Std. Deviation	Std. Error Mean	df	t-value	Sig.
Public School	100	37.81	5.36	.53	198	2.42*	.01
Private School	100	36.18	4.04	.40			

\*Significant at 0.05 level.

The above table shows that the mean value and standard deviation of Public School Teachers are 37.81 and 5.36 respectively. Whereas the mean value and standard deviation of Private School Teachers are 36.18 and 4.04. The t-value of Hand Grip Strength of Public and Private Sector School Teachers are 2.42 which is higher than the tabulated value of 1.97 at 0.05 level of significance. Hence, it indicates that Significance difference exists between the groups.



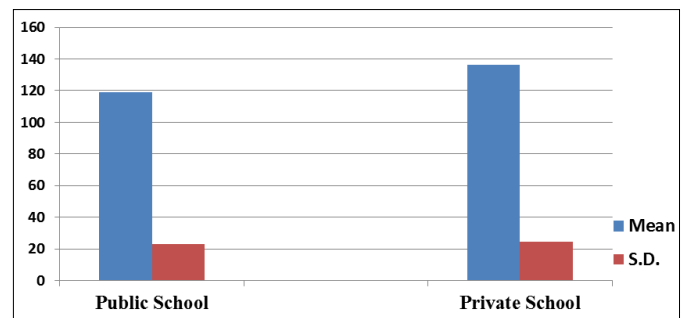
**Fig 1:** Graphical Representation of Mean and Standard Deviation of Hand Grip Strength of Public and Private Sector School

**Table 2:** Descriptive and Comparative Statistics of Back Strength of Public and Private Sector School

Groups	N	Mean	Std. Deviation	Std. Error Mean	df	t-value	Sig.
Public School	100	118.90	23.07	2.30	198	5.14*	.40
Private School	100	136.19	24.40	2.44			

\*Significant at 0.05 level.

The above table shows that the mean value and standard deviation of Public School Teachers are 118.90 and 23.07 respectively. Whereas the mean value and standard deviation of Private School Teachers are 136.19 and 24.40. The t-value of Back Strength of Public and Private Sector School Teachers are 5.14 which is higher than the tabulated value of 1.97 at 0.05 level of significance. Hence, it indicates that Significance difference exists between the groups.



**Fig 2:** Graphical Representation of Mean and Standard Deviation of Back Strength of Public and Private Sector School

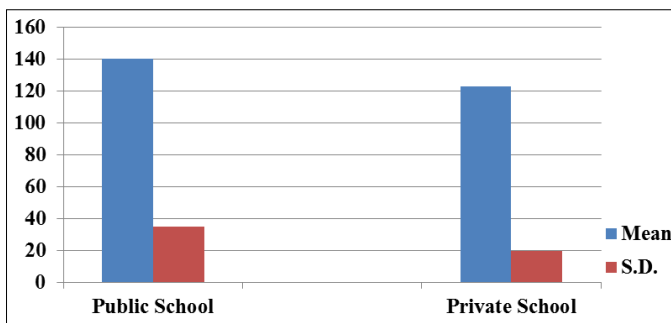
**Table 3:** Descriptive and Comparative Statistics of Leg Strength of Public and Private Sector School

Groups	N	Mean	Std. Deviation	Std. Error Mean	df	t-value	Sig.
Public School	100	140.48	34.74	3.47	198	4.43*	.000
Private School	100	122.79	19.49	1.94			

\*Significant at 0.05 level.

The above table shows that the mean value and standard deviation of Public School Teachers are 140.48 and 34.74 respectively. Whereas the mean value and standard deviation of Private School Teachers are 122.79 and 19.49. The t-value

of Leg Strength of Public and Private Sector School Teachers are 4.43 which is higher than the tabulated value of 1.97 at 0.05 level of significance. Hence, it indicates that Significance difference exists between the groups.



**Fig 3:** Graphical Representation of Mean and Standard Deviation of Leg Strength of Public and Private Sector School

#### 4. Discussion and Finding

It is documented from the table that calculated t-value of Hand Grip Strength of Public and Private Sector School Teachers are 2.42 which was higher than the tabulated value of 1.97, it indicates that Significance difference exists between the groups, the t-value of Back Strength of Public and Private Sector School Teachers are 5.14 which was higher than the tabulated value of 1.97. Hence, it indicates that Significance difference exists between the groups and the t-value of Leg Strength of Public and Private Sector School Teachers are 4.43 which were higher than the tabulated value of 1.97. Hence, it indicates that Significance difference exists between the groups, at 0.05 level of significance.

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