

Comparative Study of explosive strength of Weight Lifters and Wrestlers

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Abstract: The present study was an attempt to find out the importance of explosive strength, not only in Wrestling and Weight-lifting but also in other games. A comparative study method was used to serve this purpose. A sample of 80 Wrestlers and Weight-Lifters (40 from each game) from Rohtak District were taken to this study. The Researchers adopted the three variables to measure the explosive strength i.e. standing broad jump, vertical jump and medicine ball put. Result revealed that explosive strength of the weight-lifters was significantly found.

Introduction

Explosive strength always finds expression in motor movement. A high percentage of movements in sports is of explosive nature and involves overcoming of some external or of one's own body weight. Explosive strength therefore, is important in most of sports.

It can be defined as the ability to overcome resistance with high speed. It is shown clearly in activities such as throwing and jumping when athletes attempt to project themselves or an object as far and as fast as possible.

Explosive strength is readily measurable leg strength or power can be assessed either by a vertical leap or a standing broad jump. Here we present some examples in which explosive strength plays an important role, start in sprint races, start in swimming, smashing in volleyball, goal shooting in handball, long jump, high jump, throws, fast bowling in cricket, hitting six in cricket, most of the movement in kho-kho, smashing in badminton and tennis and so on. Wrestling weight lifting also require explosive strength. It is the use of explosive strength that makes these sports interesting, exciting and popular not only among the sportspersons, but among the common people as well.

Statement of the problem: The problem undertaken for the present study may be stated as "Comparative study of explosive strength of weight lifters and wrestlers"

Objective: To compare the explosive strength of weight lifters and wrestlers.

Literature Review

Leon E. Smith (1961) conducted a relationship study between explosive leg strength of college men. It was taken in position designed to involve the power thrust of the major muscles groups.

Which are involved in vertical jump. They then performed a modified sergeant jump without arm snap although the reliability of all measures was high. Individual difference in ratio of tested strength to body mass showed only a low and non-significant correlation with jumping performance. The result interpreted to support the hypothesis that strength exertions a dynamometer involve different in evolves a different neuromotor pattern that strength exerted by the muscles during a movement.

Stuart (1964) states that correct ratio of strength and weight i.e, relative strength help in performing the appropriate movements in gymnastics.

Woicik (1980) designed a programme to develop the high speed (explosive) qualities necessary for sprinting and jump athletes can progress to this highly specific phase only when they reached the appropriate strength level. He recommends the urgent needforthe development of specific jumping power for example bounding hopping alternate hopping , triple jump bound doubles leg hopping , hurdles hops , sand hops etc.

Sitz (1984) conducted a detailed scientific study in to the mechanics of explosive strength for the jumpers, throwers and sprinters. He stated that plyometric exercise are drills utilized to bridge the gap between in producing the relative explosive movements so necessary to excellence in jumping, throwing and sprinting.

Judith and Blucker (1996) conducted a study about the effect of leg strengthening exercises on the vertical jumping and speed of running of college women. The exercise programme improved leg strength significantly but has no significant effect on vertical jump ability or running speed. It was correlated significantly with vertical jump of running speed.

Gyan Prakash (2000) conducted a comparative study of physical fitness of football and volleyball players. The researcher found that the power was greater in the legs of football players than volleyball players. Whereas the power of arms of hands was greater in Volleyball players than the football while the ability was greater in volleyball players than the football players. Football players had greater endurance capacity than the Volleyball players. Football players possess greater speed than Volleyball players were having more flexibility than the football players and the players of both the games had greater physical fitness than the non-sports persons.

Methodology

There were 80 players (40 weight lifters and 40 wrestlers) of Rohtak District, randomly selected for the study, the minimum level of players was state and Inter-college, and test the explosive strength of players The researcher adopted the three variables 10 measure the explosive strength i.e. Standing broad Jump, Vertical Jump and Medicine ball put.

Table-1: Comparison of explosive strength of weight lifter and wrestlers

Standing Broad Jump

variables	Mean of weight lifter	Mean	Mean	S.E.D.	t-value
Standing Broad Jump	229	208	21	5.5	3.7*

*Significant at level of .05

The Table: 1 represents that the mean values of weight lifter and wrestlers in Standing Broad Jump were cited as 229 and 208 respectively. The mean difference of weight lifter and wrestlers were calculated as 21. The standard error was also finding out with the reading of 5.5. The T- was calculated as 3.7, which was test at level of significant at .05 and the tabulated value of $t = 2.069$ which show significant difference between mean values of weight lifter and wrestlers in standing broad jump test.

Table-2: Comparison of explosive strength of weight lifter and wrestlers

Vertical Jump

variables	Mean of weight lifter	Mean wrestlers	Mean difference	S.E.D.	t-value
Standing Broad Jump	115	103	12	4.2	2.8*

*Significant at level of .05

The Table: 2 represents that the mean values of weight lifter and wrestlers in vertical Jump were cited as 115 and 103 respectively. The mean difference of weight lifter and wrestlers were calculated as 12. The standard error was also finding out with the reading of 4.2. The 't'- was calculated as 2.8, which was test at level of significant at .05 and the tabulated value of $t = 2.069$ which show significant difference between mean values of weight lifter and wrestlers in standing broad jump test.

Table-3: Comparison of explosive strength of weight lifter and wrestlers

Medicine Ball Put

variables	Mean of weight lifter	Mean wrestlers	Mean difference	S.E.D.	t-value
Standing Broad Jump	13.36	13.04	.32	.09	3.2*

*Significant at level of .05

The Table: 3 represents that the mean values of weight lifter and wrestlers in Medicine ball put were cited as 13.36 and 13.04 respectively. The mean difference of weight lifter and wrestlers were calculated as .32. The standard error was also found out with the reading of .09. The 'f'- was. calculated as 3.2, which was test at level of significant at .05 and the tabulated value of $t = 2.069$ which show significant difference between mean values of weight lifter and wrestlers in standing broad jump test.

Results

On the basis of analysis and interpretation of the data the explosive strength of weight lifter was significant found more than the wrestlers.

References

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