International Journal of Law, Education, Social and Sports Studies (IJLESS)
A Peer Reviewed (Refereed) International Research Journal
Homepage:www.ijless.kypublications.com

RESEARCH ARTICLE

ISSN:2394-9724

A STUDY ON RELATIONSHIP AMONG THE PERFORMANCE BETWEEN 50 M. RUN, STANDING BROAD JUMP AND LONG JUMP

DINABANDHU NASKAR[1],TARUN MONDAL[2]
[1]Ex-student, Department of Physical Education, Visva-Bharati, W.B, India,
[2]Research Scholar, Department of Physical Education, University of Kalyani, W.B, India,

DINABANDHU NASKAR

Article Info
Received on:29/03/2015
Revised from:06/04/15
Accepted on: 08/03/15
Available online:13/04/15

ABSTRACT
Track and field is considered a basic sport on the grounds that it includes basic motor skills like catching, throwing, running, and jumping, and so doing it is recommended for getting other kinds of sports improved. PURPOSE: The purpose of the study was a study on relationship among the performance between 50m run, standing broad jump and long jump. METHODS: Thirty boys, ages 15-18 years, subjects were randomly selected from Nimpith Vivekananda sports association in south 24 district, West Bengal, those who were regular participated of different sports activities, volunteered to serve as subjects of the study. 50m. run, standing broad jump, long jump was the selected variables of the study. Coefficient correlation was used to examine the significant difference; the level of confidence was set at .05. FINDINGS: The r -value between 50m run and standing broad jump [.99(<0.05)], 50m run and long jump [.98(<0.05)], sanding broad jump and long jump [.98(<0.05)] The values indicated that there was positive relation between 50m run and standing broad jump, 50m run and long jump as well as standing broad jump and long jump.

KEYWORDS: 50m Run; Standing Broad Jump; Long Jump; Boys..

INTRODUCTION

Running is an elemental, natural part of human activity and a gift from the evolutionary process. Pre-historic ancestors, who lived on this planet millions of years ago, run every day, either to hunt for food or to escape from danger. By such running they developed strong hearts, lungs, blood vessels and limbs (WHO, 2003; Healthy People 2010; U.S. Department of Health and Human Services, 2000). From the earliest times running has been a natural part of man's existence. One of the earliest examples of competitive running can be found in the works of Homer, who tells of races ran in the 12th century BC. Thus, man has been racing on foot for over three thousand years (Blacklock, and Kennett, 2000). It was the Greeks who elevated running to the level of their gods at Olympia, and the spectacle of athletes running and engaging in other contest of exertion to sculptor's of fertile images of human beauty. The revival of the Olympics Games in 1896 has resulted in standardization of events and competitions.

However in four subsequent Olympics there was also a long jump from a standstill (Swaddling, 2002). Long jump or broad jump is a popular field event. Traditionally, strong sprinters participated in the event perhaps because of the advantage of speed. The main requirements for excellent performance in long jump are speed, spring or bounce and fine co-ordination (Linthorne, Guzman, and Bridgett, 2005). However, the following have contributed to outstanding performances in long jump; greater number of athletes

participating in the event, better informed coaches from junior high levels through the collegiate and club ranks, extensive research into the event.

Long jump is an exciting event and requires a competitor to have speed, explosive leg strength as well as proper coordination of distance, strides and spring action of the body at take- off stage level. (Ngetich, 1998; Renwick, 2001). From a spectator point of view and technique, the long jump is by far less complicated than any of the other three jumping events
(high jump, triple jump and pole vault). Long jumpers are also fast sprinters and specialist. They work hard to perfect their jumping skills and performance as do the athletes of the other
field events. The distance a long jumper can jump is influenced by other factors; the speed of the approach run, the conversion of this speed to forward -upward force at the takeoff, the range through which he can apply this forces at an optimum angle and the efficiency with which these factors terminate at the landing in the pit (Hubbard, 2001; Linthorne, Guzman, and Bridgett, 2005).

The hypothesis has long been in place arguing one uses a motor skill well, she/he has the talent to do the same on the other motor skills. The logic behind this argument is the existence of on general ability (Adams, 1987; Fleishman, 1965, 1967; Ackerman, 1988). The opposite view called specificity motor ability hypothesis argues that a various range of motor abilities exist which are somewhat independent of one another. That means if a person, for example, demonstrates great ability in the balance test, she/he won't necessarily have high a
ability in response time tests. There are a number of experiments confirming the specificity motor ability hypothesis. These experiments are built upon this hypothesis that the relationship among the motor skills must be faint if they are independent and specific (Henry, 1968).

Improvement in skill, however, could spring from the relationship between the performances of a skill with another one. On one hand, a faint relationship between skills would indicate that underlying abilities needed to perform ability is different. On the other hand, a strong relationship would allow for identifying significant abilities. There is a variety of method to determine the relationship between the performances of a skill with that of another one, of which is the correlation between an individual's perform ance scores in performing two skills (Magill, 2011).

Track and field is considered a basic sport on the grounds that it includes basic motor skills like catching, throwing, running, and jumping, and so doing it is recommended for getting other kinds of sports improved. Amongst other sports fields, running is more elementary and although it is completely separate sport, it contains something of jumps and the javelin (Shadmehr, 2000). As a part of track and field, sprint is very important. Step length and step frequency play a part in sprint (Shahbazi-moghadam et al., 1999; Hunter et al., 2004; Weyand et al., 2000). According to researchers, step length and step frequency are the factors contributing to form the horizontal velocity of sprint. Accordingly, an increase in each factor causes increased sprint and this will continue until the other factor isn't declining. But on the other hand, the results of the research as to the relative significance of increased step length or improved step frequency aren't firm (Malina et al., 2004).

PURPOSE OF THE STUDY:

The purpose of the study was a study on relationship among the performance between 50m run, standing broad jump and long jump.

METHODOLOGY

SELECTION OF SUBJECT

Total 30 trained subjects were randomly selected from Nimpith Vivekananda sports association in south 24 parganas district, West Bengal, those who are trained under the coach and their ages 15-18 years. Volunteered to serves as subjects of the study.

CRITERION MEASURES:

In the present study, the investigator has considered the following things such as-

Table-1

Sl. No	Variables	Units
1.	50m Run	Seconds
2.	Standing Broad Jump	Meters
3.	Long Jump	Meters

STATISTICAL PROCEDURE:

The data analysed and compared with the help of statistical procedure in which mean, standard deviation, correlation coefficient (r) used to compare the data.

RESULTS

Mean and standard deviation of different components of subjects computed. Its result has been depicted in table 2.

Table 2 Mean and standard deviation of different components of subjects computed

Sl. No.	Variables	Mean	St. Dev.
1.	50m. Run	7.29	0.75
2.	Standing Broad Jump	2.17	0.14
3.	Long Jump	4.79	0.42

Table 1 depicts that the mean and standard deviation values of 50m Run, Standing Broad Jump, Long Jump of subjects. There values were recorded as, 50m Run7.29 ±0.75, Standing Broad Jump2.17 ±0.14, Long Jump 4.79±0.42 respectively.

Table 3: Correlation Coefficient between variables wise of subjects

Variables	50m Run	Standing Broad Jump	Long Jump
50m Run		.99*	.98*
Standing Broad Jump			.98*
Long Jump			

Level of significance 0.05 df (28) = .361 * significant at 0.05 level

The analysis of table 3 shows that the correlation coefficient between 50m run and standing broad jump .99, 50m run and long jump .98, standing broad jump and long jump .98. The results shown that the positive correlation between 50m run and standing broad jump, 50m run and long jump and standing broad jump and long jump of subjects.

DISCUSSION

This study was aimed to the find out relationship among the performance between selected components. There are various factors that influence of the performance; these factors include physical activity, environment, heredity, life style, food habit and maturation. Mechanism and the development of life wealth and facilities have changed the mankind tendency towards the nature.

The results of this study showed that the positive relation between the performance of 50m run and standing broad jump, more explosive power increase the speed during the running events. Researchers believe that lower extremity strength is a significant factor giving rise to an increase in the speed being studied (Mohebi et al, 2006; Cavagna & Kaneko, 1977; Cavagna et al, 1988; Ropert et al., 1998; Hunter et al., 2004; Michel et al., 1995; Armstrong, 1983, 1984). Researcher investigated that the grounds 45 m sprint and standing long jump may share underlying abilities (combination of power and speed) (Chu, 1998, Chu & Myer, 2013, Van et al., 1994). So, an improved skill could show a relationship between the performance of a skill with that of another one (Magill, 2011). It seems that training in one of the above skills can bring about an enhancement in the other skills.

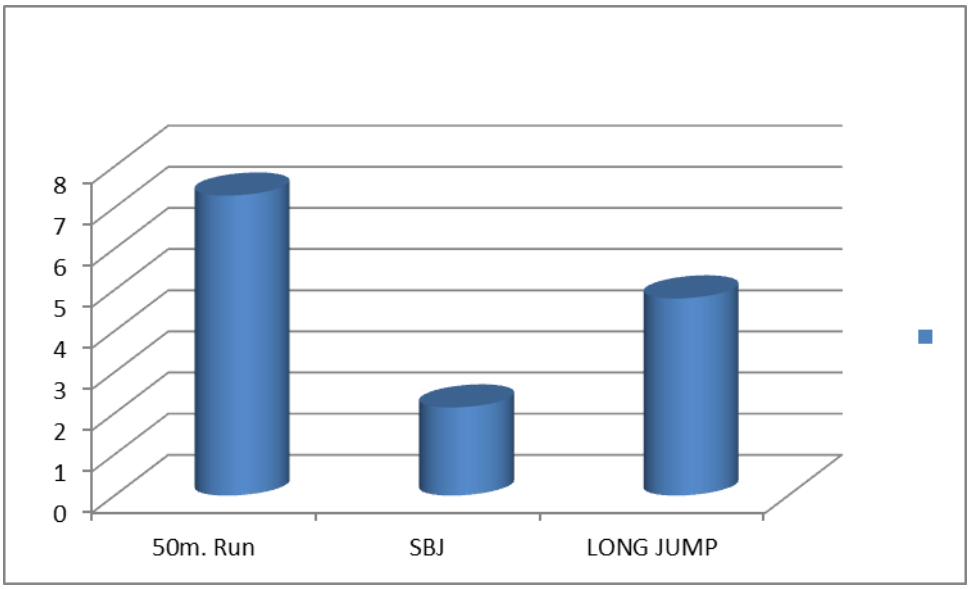
J. Kyle Davis (2011) investigated that Broad jump distance was significantly correlated with 40 yard time. Hosseinizarch et al (2014) showed a positive, significant correlation between standing long jump with 45 m sprint. It seems that the resemblance between 45 m sprint is much more striking in regard to underlying abilities and, as a result, there is a positive, significant correlation between them.

The result of this study showed that the positive correlations between 50m run and long jump performance. Eric D.K. Ngetich et al(2013) showed that Performance in leg strength and speed is significantly related to running broad jump performance and that these variables may be used as prediction factors in running broad jump performance.

The result of this study showed that the positive correlations standing broad jump and long jump performance. explosive power is very essential during take-off position of long jump. Khalid S. Almuzaini et al. (2008), finding of the study was that the long jump test showed significant correlations with short sprint, standing long jump ability.

Rogers, (2005), investigated a study on the long jump. This is an event which requires speed and powerful jumping ability. Speed is self evident but power needs to be defined as a very fast application of force, in other words a combination of speed and strength. The long jumper is required to generate maximum controllable speed on the run way to achieve the best results. The maximum controllable speed is determined by the athlete's sprint speed and how quickly maximum force can be applied into the ground at the take-off board. Therefore, the training emphasis will focus upon the development of (1) Sprint speed, (2) muscular strength, and (3) power.

Fig1. Graphical representation of different components of the subject



CONCLUSION:

On the basis of result obtained from analysis of data following conclusion were drown-

1. Performance of 50m run has positive correlation with performance of standing broad jump.
2. Performance of 50m run has positive correlation with the performance of long jump.
3. There was positive correlation between the performance of sanding broad jump and long jump.

REFERENCES:

1. Blacklock, D. and Kennett, D. (2000). Olympia, Warrior Athletes of Ancient Greece. *New York: Walker and Co.*
2. Davis, J. Kyle, "The Relationship between Lower Body Power and Sprinting Ability in Recreationally Trained College Men" (2011). *Electronic Theses & Dissertations.* Paper 123.

3. Eric D.K. Ngetich, Elijah. G. Rintaugu, Assessment of Physical Fitness components as prediction factors of Long Jump Performance, *International Journal of Current Research Vol. 5, Issue, 01, pp.017-021, January, 2013*
4. H.E. Garret, Statistics in Psychology and Education (Hyderabad: International Book Bureau, 1979), P. 227
5. Hubbard, M. (2001). The flight of sports projectiles. In V. M. Zatsiorsky (Ed.), *Biomechanics in sport (pp. 381-400). Oxford: Blackwell Science.*
6. J.P. Verma, Sports Statistics (Venus Publication Gwalior, 2000), P. 245
7. Khalid S. Almuzaini, Steven J. Fleck, modification of the Standing Long Jump Test Enhances Ability to Predict Anaerobic Performance, Journal of Strength and Conditioning Research National Strength and Conditioning Association, , 22(4)/1265–1272, 2008.
8. Linthorne, N. P., Guzman, M.S., and Bridgett, L. A. (2005). Optimum take-off angle in the long jump. Journal of Sports Sciences, 23, 703-712, 359-372.
9. Ngetich, E.D.K. (1998). Assessment of Physical Fitness Components as Predication factors of Long Jump performance among female undergraduate students of Indira Gandhi Institute of Physical Education and Sports Sciences - *Delhi University. Unpublished M.P.Ed Thesis. Delhi University, New Delhi, India.*
10. Renwick, G.R. (2001). Play Better Athletics, *Delhi: sports Publication.*
11. Swaddling, J. (2002). The Ancient Olympic Games. *Austin: University of Texas Press, 2nd ed.*
12. Seyed Hossein Hosseinizarch, Mohaddeseh Bagherpoor, Can Standing Long Jump Predict Sprint among Children, *International Journal of Basic Sciences & Applied Research. Vol., 3 (2), 130-134, 2014*
13. World Health Organisation. (2003). Health and Development through Physical Activity and Sport. *World Health Organisation,* Geneva.