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Analysis the balance and speed variables of different levels hammer throwers

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Abstract

The aim of this study was to determine the comparative analysis of balance and speed of different levels Hammer throwers. To obtain data, the investigators had selected total thirty subjects, Male Inter-College (15) and Inter-University Level (15) Hammer throwers between the age group of 20-25 years were selected. To determine the significant differences of motor fitness components between Inter-College and Inter- University Hammer throwers, unpaired t-test was employed for data analyses. To test the hypothesis, the level of significance was set at 0.05. To conclude, speed variable shows that insignificant differences occur between Inter-College and Inter-University Hammer throwers. Balance variable shows the extremely statistically significant result between these two groups.

Keywords: Balance, speed

Introduction

Athletes throw a metal ball (16lb/7.26kg for men, 4kg/8.8lb for women) for distance that's attached to a grip by a steel wire no longer than 1.22m while remaining inside a seven-foot (2.135m) diameter circle. In order for the throw to be measured, the ball must land inside a marked 35-degree sector and the athlete must not leave the circle before it has landed, and then only from the rear half of the circle. The thrower usually makes three or four spins before releasing the ball. Athletes will commonly throw four or six times per competition. In the event of a tie, the winner will be the athlete with the next best effort. Physical fitness is a set of attributes that are either health- or skill-related. The degree to which people have these attributes can be measured with specific tests Singh, 2013. These definitions are offered as an interpretational framework for comparing studies that relate physical activity, exercise, and physical fitness to health. Throughout the history of mankind physical fitness has been considered an essential element of everyday life. In adults, relationship among physical activity, health related fitness, and health are fairly well established. Low levels of physical activity and cardio-respiratory fitness are both associated with higher risk of all cause and disease specific mortality (Thakur & Kumar 2013) [2]. Further, the researchers revealed that emotional intelligence is a useful and efficacy construct for use in applied situations such as during the performance (Meyer & Fletcher, 2007; Lane *et al.* 2009).

Procedure and methodology

Selection of Subjects For the purpose of the present study, Thirty (30), Male Inter-College and Inter-University Level Hammer throwers between the age group of 20-25 years were selected. The subjects were purposively assigned into two groups, Inter-College (15) and Inter-University (15) **Selection of Variables** A feasibility analysis as to which of the variables could be taken up for the investigation, keeping in view the availability of tools, adequacy to the subjects and the legitimate time that could be devoted for tests and to keep the entire study unitary and integrated was made in consultation with experts.

Selection of variables and Administration of tests

With the above criteria in mind, the following variables were selected for the present study:

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I) Balance Ability (Stork Stand Test)

Criterion Measures

Stork Stand Test was used to measure Balance ability of the subjects.

Purpose

The test is used to measure balance of the performer while supported on the ball offoot of the dominant leg.

Equipment

Stopwatch, Pen, Pencil and Papers.

Procedure

The subject was asked to stand on the foot of the dominant leg, place the other foot on the inside of the supporting knee. The subject was instructed to place the hands on the respective sides of the waist. The subject was informed that he should stand on the ball of the foot by raising his heel from the floor on the signal start. On the signal start, the subject raises the heel from the floor to maintain the balance as long possible without moving the ball of the foot from its first position, and the tester starts the stopwatch. The performer is also recognized to maintain balance with his best efforts and not let the heel to touch the floor for the longest duration. As soon as the subject loses the balance by touching the heel to the floor or loses the movement of the foot from first position, the tester stops the stopwatch.

Instructions

1. Place the hands on the respective sides of the waist.
2. Stop the watch quickly when subject loses the balance or heel touches the floor.

Scoring

The score memorized the time in 1/100th seconds for the maintenance of the balance on the ball of foot.

(II). Speed ability (50 Meter Dash)

Criterion Measures

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport. The 50 Meter Sprint is part of the International Physical Fitness Test.

Purpose

The aim of this test is to determine speed.

Equipment required

measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

Procedure

The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go".

Results

Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

Statistical Technique Employed

To determine the significant differences of motor fitness components between Inter-College and Inter- University Hammer throwers, unpaired t-test was employed for data analyses. To test the hypothesis, the level of significance was set at 0.05.

Results

Table 1: Mean S.D and t value of Inter-College and Inter-University Hammer throwers on the Balance and Speed Variables

Variables	N	Mean		S.D		T value	P value
		Inter-College	Inter-university	Inter-college	Inter-university		
Speed	15	7.5407	7.2740	0.3700	0.4949	1.6714	0.1058
Balance	15	16.5787	20.6433	0.5082	0.4937	22.2182	0.0001

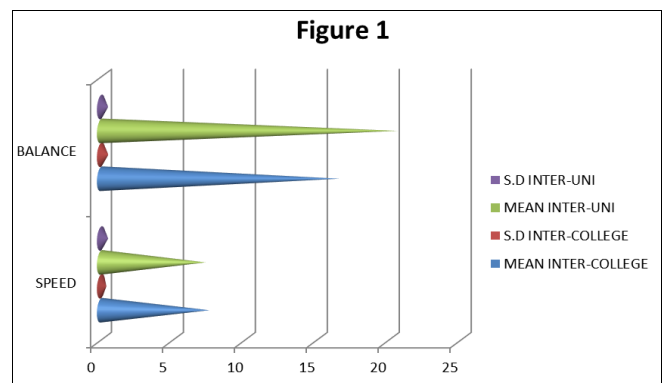
Speed

The descriptive statistics shown in table and figure Mean and SD values of Inter-College Hammer throw Players on the variable of speed as 7.5407 and 0.3700 respectively. However, Inter-University Hammer throw Players had Mean and SD values as 7.2740 and 0.4949 respectively. The 't'-value 1.6714 as shown in the table above was found statistically insignificant (p>0.05). It has been observed from the above results that Inter-University Hammer throwers have demonstrated better on the variable speed than the Inter-College Hammer throwers.

Balance

The descriptive statistics shown in table and figure Mean and SD values of Inter-College Hammer throwers balance variable is 16.5787 and 0.5082 respectively. However, Inter-University Hammer throwers had Mean and SD values as 20.6433 and 0.4937 respectively. The 't'-value 22.2182 as shown in the table above was found statistically significant (p<0.05). It has been observed from the above results that

Inter-University Hammer throwers have demonstrated better on the variable Balance than the Inter-College Hammer throwers.



Conclusion

To conclude, the outcome of the study shows the insignificance differences in speed variable and statistically

significant differences occur between Inter-College and Inter-University Hammer throw players on Balance variable.

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