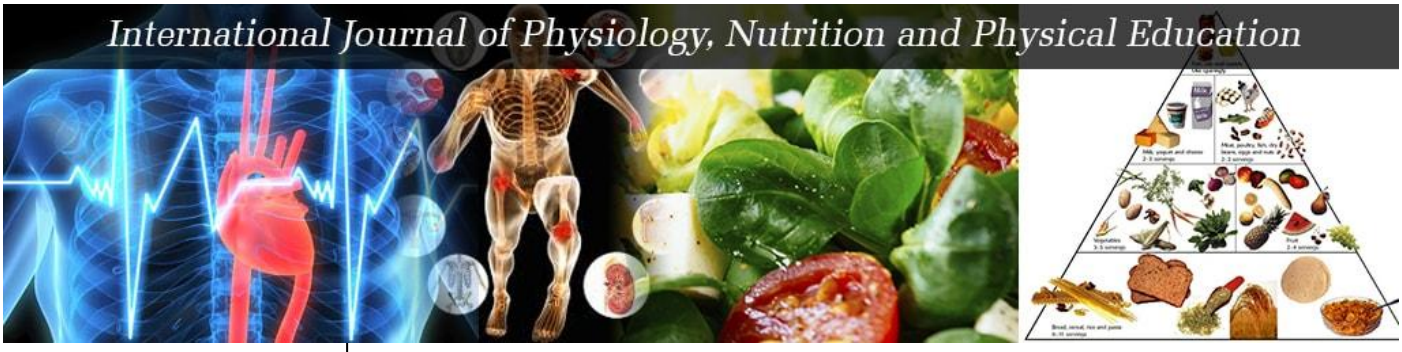

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Study on motor educability of district and state level football players

Dr. Satinder Kumar

Abstract
A study using a sample of Forty healthy, football (N = 40) players participated in the assessment of Motor Educability. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study. The subjects were purposively divided into two groups of 20 each with reference to their level of performance:- Group: N_1=20; District level and Group: N_2=20; State level. To measure Motor Educability of samples Metheny Johnson Motor Educability test was used. Convenience sampling (also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in study were utilized for the purpose of this study. Statistical analysis was performed using SPSS for Windows, version 20.0. Data were for analyzing differences of means. A p value ≤ 0.05 was taken statistically significant. It has been observed that State level Football Players have demonstrated significantly better on Front Roll, Back Roll, Jumping Half Turn and Jumping Full Turn than District level Football Players.

Keywords: Football, motor educability, district, state

Introduction
Fleishman also postulates nine physical-proficiency abilities that presumably are associated with athletic and gross physical performance. The factors identified are (1) static strength, (2) dynamic strength, (3) explosive strength, (4) trunk strength, (5) extent flexibility, (6) dynamic flexibility, (7) gross body coordination, (8) multi-limb coordination, and (9) stamina.
Over twenty years' work has led to the following interpretations of Fleishman's work:-

- A particular combination of abilities can be identified that contribute to motor-skill performance.
- Changes in the combination of these abilities occur with continued practice and improvement.
- Motor abilities become more important in task performance than non-motor abilities with practice.
- A task-specific factor emerges with practice.

In recent years, football success has been shown to be highly dependent on various physical, technical, tactical, and psychological factors [1, 2]. Players require specific skills and superior physical conditioning in order to effectively execute these tasks. Differences in the evaluation of player parameters have been shown to correlate with playing positions, as observed in many studies with respect to different parameters. Differences in total distance covered [3, 4, 5], differences in sprint distance [6, 7], isokinetic strength [8, 9], morphological and body composition [10, 11], power assessment [12, 13] and VO2maxuptake [14, 15].

Materials and Methods
Sample population
A study using a sample of Forty healthy, football (N = 40) players participated in the assessment of Motor Educability. All the subjects, after having been informed about the objective and protocol of the study, gave their consent and volunteered to participate in this study.

The subjects were purposively divided into two groups of 20 each with reference to their level of performance:-
Group: N_1=20; District level
Group: N_2=20; State level

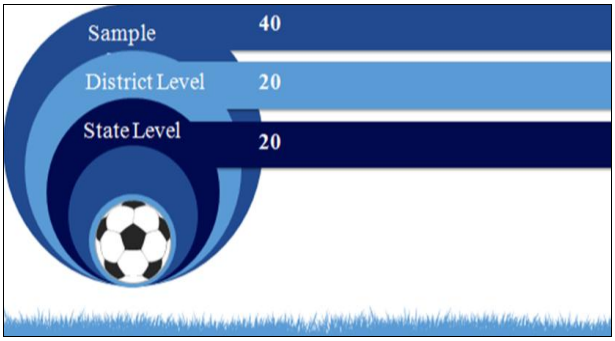


Fig 1: Sample population (*viz*. Group: N_1=20; District level and Group: N_2=20; State level).

Data collection
To measure Motor Educability of samples Metheny Johnson Motor Educability test was used. This test consists with 4 items i.e., front roll, back roll, jumping half turn and jumping full turn. This test is performed in a canvas measuring 15 feet in length and 2 feet wide. Each participant was subjected to preliminary exercise testing to familiarize them with the exercise model. Subjects performed a warm up lasting 5-min. before the specific test, to promote specific physiologic and motor adaptation.

- **Test Area:** A canvas measuring 15 feet in length and 2 feet wide is marked as show in figure. The 15 feet length is divided into ten section of each 18" inch each. The width of the transverse lines is ¾ inch and 3 inch alternatively as show in figure. So that center of lines remains 18" inch apart. Another ¾ inch wide line is marked lengthwise in the middle of the canvas length. This properly marked piece of canvas is placed over a gymnasium mat with the sides and ends properly tucked to the mat so that the canvas remains properly stretched. Alternatively, the above area may be directly painted or marked on the gymnasium mat without using the canvas

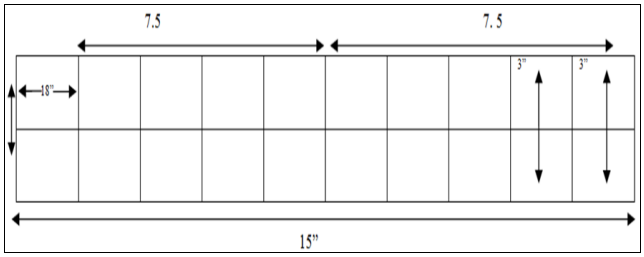


Fig 2: Testing Area of Metheny-Johnson motor educability test battery.

The test battery consists of the following four motor stunts:-

- **Front Roll**: Ignoring the long middle dividing line, the subject is asked to start outside the marked area and perform two front rolls, one up to 7.5' i.e. 3" wide center line and the other in the second half of 7.5'. The subject is to perform the rolls without touching the limits or over reaching the zone mentioned above.
- **Scoring**: Each correct roll gets 5 points, hence maximum of 10 points. Two points are deducted for overreaching side line, right or left for each roll; one point is deducted for over reaching the end limit on each roll and full five points are deducted when the subject fails to perform a true front roll.
- **Back Roll:** The test is similar to front roll both in performing and scoring. The subject is to start outside the marked chart area and is to perform two back rolls in the 2 feet lane area, one up to first half and the second back roll in the second half.
- **Jumping Half-Turns:** The subject is asked to start with feet on first 3inch line, jump with both feet to second 3inch wide line, executing a half turn either right or left, jump third 3inch line executing half turn in opposite direction to first half-turn and then to 4th and 5th 3inch wide lines executing half turns right and left alternatively.
- **Scoring:** Perfect execution of four jumps is worth ten points**.** Only 2 points are deducted for each wrong jump when the subject either dose not land with both feet on the 3inch line or turns the wrong way or both.
- **Jumping Full-Turns:** The subject is asked to start with feet out side marked area at about the center of the lane. She/he is required to jump with feet together to second rectangular space, executing a full turn with the body either right or left; continue jumping to alternate rectangular spaces across the marked mat executing full turns, rotating body in same direction, landing on both feet every time.

Scoring: Perfect execution of five jumps is worth ten points**.** Two points are deducted, if the subject fails to keep balance on landing on both feet: turns too far or oversteps the squares.

Sampling
Convenience sampling (also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in study were utilized for the purpose of this study.

Statistical analysis
Statistical analysis was performed using SPSS for Windows, version 20.0. Data were for analyzing differences of means. A p value ≤ 0.05 was taken statistically significant.

Result

Table 1: Mean Standard Deviation, Standard Error of the Mean, t-value and p-value of Motor Educability among District and State Level Football Players.

Variables	Mean		SD		SEM		t-value
	District	State	District	State	District	State	
Front Roll	6.55	7.5	1.39	1.50	0.31	0.34	2.07
Back Roll	5.35	6.45	0.93	1.28	0.21	0.29	3.11
Jumping Half Turn	6.45	7.2	0.83	1.29	0.18	0.29	2.20
Jumping Full Turn	6.1	7.05	0.97	0.76	0.22	0.17	3.45

*Significant at 0.05 level

Front Roll
The above table indicates that the results of District and State Level Football Players with regard to the Metheny Johnson Motor Educability Test. The descriptive statistics shows the Mean and SD values of District Level Football Players on the sub-variable Front Roll as 6.55 and 1.39 respectively.

However, State Level Football Players had Mean and SD values as 7.5 and 1.50 respectively. The standard error of the mean (SEM) were 0.31 and 0.34 respectively. The t-value 2.07 as shown in the table above was found statistically significant ($P<.05$). It has been observed that State Level Football Players have demonstrated significantly better on Front Roll than the District Level Football Players.

Back Roll

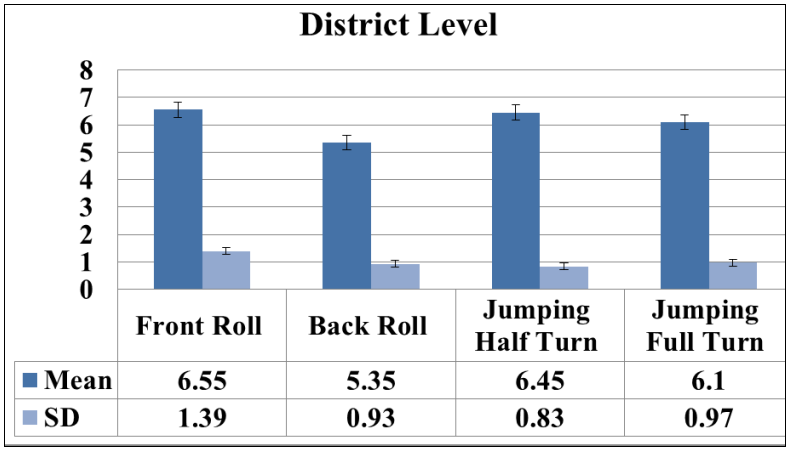
The descriptive statistics shows the Mean and SD values of District Level Football Players on the sub-variable Back Roll as 5.35 and 0.93 respectively. However, State Level Football Players had Mean and SD values as 6.45 and 1.28 respectively. The standard error of the mean (SEM) were 0.21 and 0.29 respectively. The t-value 3.11 as shown in the table above was found statistically significant ($P<.05$). It has been observed that State Level Football Players have exhibited better on Back Roll than the District Level Football Players.

Jumping Half Turn

The descriptive statistics shows the Mean and SD values of District Level Football Players on the sub-variable Jumping Half Turn stunt as 6.45 and 0.83 respectively. However, State Level Football Players had Mean and SD values as 7.2 and 1.29 respectively. The standard error of the mean (SEM) were 0.18 and 0.29 respectively. The t-value 2.20 as shown in the table above was found statistically significant ($P<.05$). It has been observed that State Level Football Players shown their dominance on Jumping Half Turn than the District Level Football Players.

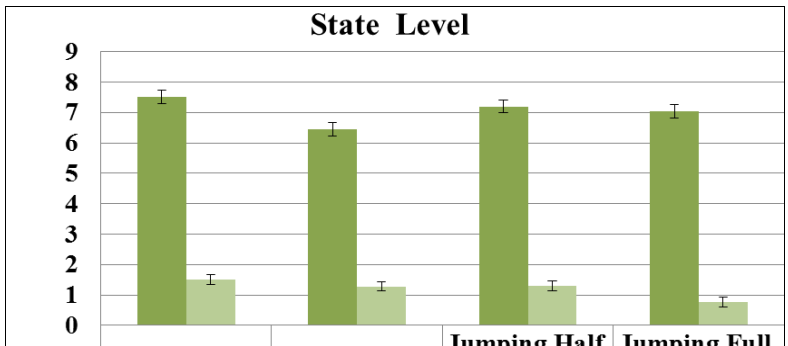
Jumping Full Turn

The descriptive statistics shows the Mean and SD values of District Level Football Players on the sub-variable Jumping Full Turn as 6.1 and 0.97 respectively. However, State Level Football Players had Mean and SD values as 7.05 and 0.76 respectively. The standard error of the mean (SEM) were 0.22 and 0.17 respectively. The t-value 3.45 as shown in the table above was found statistically significant ($P<.05$). It has been observed that State Level Football Players have demonstrated significantly better on Jumping Full Turn than District Level Football Players.



	Front Roll	Back Roll	Jumping Half Turn	Jumping Full Turn
Mean	6.55	5.35	6.45	6.1
SD	1.39	0.93	0.83	0.97

Fig 3: The descriptive statistics (Mean) and (SD) of District Level Football Players



	Front Roll	Back Roll	Jumping Half Turn	Jumping Full Turn
Mean	7.5	6.45	7.2	7.05
SD	1.5	1.28	1.29	0.76

Fig 4: The descriptive statistics (Mean) and (SD) of State Level Football Players

Conclusions

It has been observed that State level Football Players have demonstrated significantly better on Front Roll, Back Roll, Jumping Half Turn and Jumping Full Turn than District level Football Players.

Conflict of interest

The authors declare that there is no conflict of interests.

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