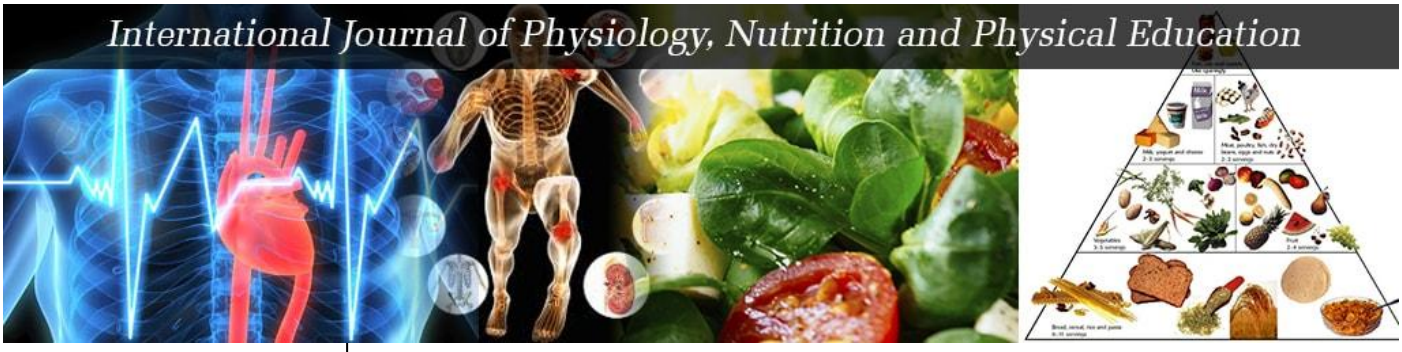

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Study on psychomotor abilities of state and national level football players

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Abstract
A study using a sample of Thirty healthy, football (N = 30) players participated in the assessment of Psychomotor Abilities. 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. National level football players have demonstrated significantly better on the variables, Speed, Strength, Agility, Cardiovascular Endurance and Static Balance than the state level football players.

Keywords: Strength, agility, cardiovascular endurance, static balance, football

Introduction
Soccer is the world's most popular sport, being played in every nation without exception. In recent years, there has been a remarkable expansion of sport science. The subject area is now recognized both as an academic discipline and a valid area of professional practice. Coaches and soccer players are more open to contemporary scientific approaches to prepare for competitions. One of the problems scientists have to deal with when investigating problems concerning a game of soccer is sample size. The number of participants who are involved in the studies are mostly under 30 [1, 2, 3, 4, 5, 6, 7, 8].
Success of team sports require psychological and physical wellbeing in addition to precise motor skills, tactical qualities, playing style, seasonal period, individual and team motivation [9]. Of the determinants affecting sports performance, physical fitness may be the most important [10]. Physical fitness is defined as the capacity to perform daily activity with vitality and sharpness, without undue fatigue while being able to appreciate recreation time interests and to meet the unpredicted emergencies [11].

Materials and Methods
Sample population
A study using a sample of Thirty healthy, football (N = 30) players participated in the assessment of Psychomotor Abilities. 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 15 each with reference to their level of performance:-
Group: N_1=15; State level
Group: N_2=15; National level

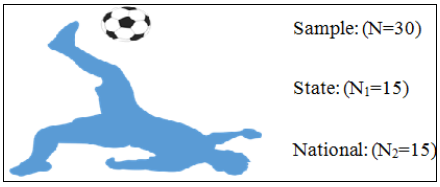

Fig 1.

Variable selection

For the purpose of this investigation following Psychomotor Abilities were measured:-

- Speed
- Strength
- Agility
- Cardiovascular Endurance
- Static Balance

Table 1: Variable Selection, Test and Criterion Measure.

Variables	Tests	Criterion Measure
Speed	20 meter dash	Recorded to the nearest 1/100th Second
Strength	Handgrip Strength Test	Recorded in kg
Agility	Illinois Agility Test	Recorded to the nearest 1/100th Second
Cardiovascular Endurance	800 meter run	Recorded to the nearest minutes /seconds
Static Balance	Stork Balance Stand Test	Recorded to the nearest 1/100th Second

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.

Results

Table 2: Mean Standard Deviation, Standard Error of the Mean, t-value and p-value of male State and National level Football Players.

Variables	Mean		SD		SEM		t-value
	State	National	State	National	State	National	
Speed	4.51	4.31	0.12	0.16	0.03	0.04	3.91*
Strength	45.27	50.33	4.33	1.54	1.12	0.39	4.27*
Agility	15.81	15.4	0.31	0.36	0.08	0.09	3.65*
Cardiovascular Endurance	3.25	3.11	0.11	0.17	0.03	0.04	2.59*
Static Balance	19	23.8	3.27	3.65	0.85	0.68	4.41*

*Significant at 0.05 level

Speed

The descriptive statistics shows the Mean and SD values of state level football players on the sub-variable Speed as 4.51 and 0.12 respectively. However, national level football players had Mean and SD values as 4.31 and 0.16 respectively. The standard error of the mean (SEM) were 0.03 and 0.04 respectively. The t-value 3.91 as shown in the table above was found statistically significant ($P<.05$). It has been observed that national level football players have demonstrated significantly better on speed than the state level football players.

Strength

The descriptive statistics shows the Mean and SD values of state level football players on the sub-variable Strength as 45.27 and 4.33 respectively. However, national level football players had Mean and SD values as 50.33 and 1.54 respectively. The standard error of the mean (SEM) were 1.12 and 0.39 respectively. The t-value 4.27 as shown in the table above was found statistically significant ($P<.05$). It has been observed that national level football players have exhibited better on Strength than the state level football players.

Agility

The descriptive statistics shows the Mean and SD values of state level football players on the sub-variable Agility as 15.81 and 0.31 respectively. However, national level football players had Mean and SD values as 15.4 and 0.36 respectively. The standard error of the mean (SEM) were 0.08 and 0.09 respectively. The t-value 3.65 as shown in the table above was found statistically significant ($P<.05$). It has been observed that national level football players have demonstrated significantly better on Agility than the state level football players.

Cardiovascular Endurance

The descriptive statistics shows the Mean and SD values of state level football players on the sub-variable Cardiovascular Endurance as 3.25 and 0.11 respectively. However, national level football players had Mean and SD values as 3.11 and 0.17 respectively. The standard error of the mean (SEM) were 0.03 and 0.04 respectively. The t-value 2.59 as shown in the table above was found statistically significant ($P<.05$). It has been observed that national level football players have demonstrated significantly better on Cardiovascular Endurance than state level football players.

Static Balance

The descriptive statistics shows the Mean and SD values of state level football players on the sub-variable Static Balance as 19 and 3.27 respectively. However, national level football players had Mean and SD values as 23.8 and 3.65 respectively. The standard error of the mean (SEM) were 0.85 and 0.68 respectively. The t-value 4.41 as shown in the table above was found statistically significant ($P<.05$).It has been observed that national level football players have shown better Static Balance than the state level football players.

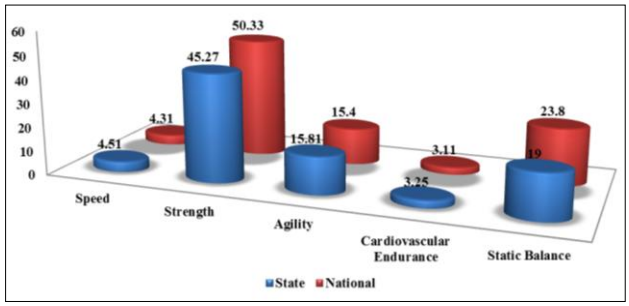

Fig 2: Mean comparison of male State and National level Football Players.

Conclusions

1. **Speed:** National level football players have demonstrated significantly better on speed than the state level football players.
2. **Strength:** National level football players have exhibited better on Strength than the state level football players.
3. **Agility:** National level football players have demonstrated significantly better on Agility than the state level football players.
4. **Cardiovascular Endurance:** National level football players have demonstrated significantly better on Cardiovascular Endurance than state level football players.

5. **Static Balance:** National level football players have shown better Static Balance than the state level football players.

Conflict of interest

The authors declare that there is no conflict of interests.

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