

## Comparative Study of Psychomotor Abilities of Female Players in Relation to Area and Level of Participation



**Sanjiv Dutta**

Assistant Professor,  
Deptt. of Physical Education &  
Sports  
Punjabi University,  
TPD Malwa College, Rampura  
Phul, Bathinda, Punjab

### Abstract

The present study attempted to find the difference in psychomotor abilities of rural and urban female players and school and university level female players. Descriptive survey method was adopted. A random sample of 244 female players was taken. The data was collected by the investigator himself. Seven tests for testing seven Psychomotor abilities were applied in the field and lab. The t- ratio technique was applied to study the difference among rural and urban female players and school and university level female players. The results showed that the urban females are better on visuo-motor co-ordination, whereas female rural athletes were better on eye-hand co-ordination. The female university level players were superior on the visuo-spatial co-ordination, psychomotor mobilization eye-arm co-ordination and visuo-motor co-ordination.

**Keywords:** Psycho-Motor Abilities, Female Players.

### Introduction

Sports activities are the sum total of psychomotor abilities. The future prospect of athletes definitely depend on their psychomotor endowment which can, of course, be groomed at the later stage by providing adequate and suitable environmental support.

Since sport is so visible and influential, psychomotor abilities are receiving considerable attention with an increasing number of individuals wishing to be involved in their explorations. The behaviour that is generally reflected by movement generalized patterns and highly specific skills can be included in the study of psychomotor learning when the athletic activities include many motor activities. Some activities seemingly involve many of large muscles of the bodies; others require the co-ordinate precision of small muscle groups.

Singer and John (1979) reported that activities which are primarily movement oriented and emphasis overt physical responses bear the label 'psychomotor'. They encompass controlling, manipulating and/or moving an object; controlling the body of the object such as balancing, moving and/or controlling the body or the part of the body in space with timing in a brief or long act or sequence under predictable and unpredictable situation. Noble (1968) argued that motor skills can be defined as merely muscular actions modified by learning variables. Psychomotor tasks are elaborately interpreted to these situations that require the identification and combination of stimulus organism response elements in the coordinated spatio-temporal patterns of receptor effectors activity as a joint function of practice, repetition and reinforcing feedback so as to optimize probability, amplitude and time score in their acquisition, retention and transformation.

### Psycho- Motor Abilities

Various psychomotor parameters have been selected by the investigator in order to obtain the basic, general and global view of the psychomotor make-up of the subjects under investigation so that their comparative functional status can be ascertained to prepare their psychomotor profiles. This is the principal aim of the present study. The psychomotor parameters researched in the study are given below:

Visuo- Spatial Coordination, Psychomotor- Mobilization, Eye- Arm Coordination, Visuo- Motor Coordination, Psycho- Motor Stability, Eye- Hand Coordination and Eye- Leg Coordination.

### Need and Significance of the Study

India is realizing the importance of mass participation in sports as the brilliant players can only be selected from those mass participants. The

participants who are to be groomed for future definitely need scientific backing. It will be highly important to go for the establishment of psychomotor profile of young female players as primary steps towards their future progress in sports. Sports are also one of the means for women empowerment. Here the researcher is interested in finding out the difference between rural and urban female players on their psychomotor abilities which are the basis of success in sports. The investigator is also curious to find out the difference in Psychomotor abilities of school and university level players.

**Objectives (Aims)**

1. To compare Psychomotor Abilities of Rural and Urban Female Players.
2. To Compare Psychomotor Abilities of School and University level female players.

**Tools Used**

S. No.	Test / Tool	Motor Element	Psychomotor Ability Tested
1.	Standing Broad Jump Test	Limb Coordination	Visuo-Spatial Coordination
2.	Skipping Rope Jump Test	Hand-Leg Coordination	Psychomotor Mobilization
3.	Basketball Wall Pass Test	Two –Arm Coordination	Eye –Arm Coordination
4.	Volleyball Wall Volley Test	Arm- Shoulder Coordination	Visuo-Motor Coordination
5.	Soccer Ball Wall Volley Test	Bilateral Coordination	Eye -Leg Coordination
6.	Mirror Drawing Test	Manual dexterity	Eye –Hand Coordination
7.	Steadiness Test	Hand balance	Psychomotor Stability

**Data Collection**

Data was collected by investigator himself. Various Equipments and Tests required for administering different Psychomotor abilities tests were taken alongwith. Permission of Principals, Sports Incharges and Coaches was taken. The girl players were called in the playground. The tests were

**Hypotheses**

1. Rural and Urban Female Players differ in their Psychomotor Abilities.
2. School and University level Players differ in their Psychomotor Abilities.

**Methodology**

**Design**

Descriptive Method Survey was followed in the present study. The data was collected with help of different tests of Psychomotor Abilities. t- ratio technique was used to analyze the data.

**Sample**

A total sample of 244 females was taken for the study randomly. 121 and 123 females belonging to rural and urban areas respectively were taken. 124 female players were taken from schools and 120 female players were taken from university level.

administered on each and every player individually. Record of their performance was maintained by the investigator himself.

**Statistical Techniques**

t- ratios technique was used to analyze the data.

**Results and Discussion**

**Table- 1**  
**Means, SDs and t-ratios of Seven Psychomotor Abilities of Rural and Urban Female Players**

S. No.	Psycho-motor Abilities	Rural (N = 121)			Urban (N = 123)			dm	SEdm	t-ratios	Significant Level
		M	SD	SE	M	SD	SE				
1.	Standing Broad Jump (Mts)	1.58	0.235	0.21	1.54	0.208	0.018	0.04	0.028	1.377	NS
2.	Skipping Rope Jump (30 Sec.)	59.91	11.218	1.020	62.69	13.528	1.220	2.78	1.590	1.748	NS
3.	Basketball Wall Pass (30 Sec.)	25.11	2.786	0.253	25.14	3.106	0.280	0.03	0.377	0.079	NS
4.	Volleyball Wall Volley (10/20 Sec.)	8.63	2.527	0.230	9.53	2.590	0.234	0.90	0.328	2.743**	P < .01
5.	Soccer Ball Wall Volley (20 Sec.)	7.93	1.424	0.129	8.24	1.167	0.105	0.31	0.166	1.864	NS
6.	Mirror Drawing Test Time Error	28.05	9.550	0.868	30.99	10.030	0.904	2.94	1.253	2.346*	P < .05
		31.70	11.979	1.089	34.40	11.858	1.069	2.70	1.526	1.769	NS
7.	Steadiness Test	33.44	16.612	1.510	35.28	15.962	1.439	1.84	2.086	0.882	NS

Table 1 shows that in case of Volleyball wall volley and Mirror drawing test the psychomotor abilities of urban and rural female players differ as the t-value of 2.743 and 2.346 respectively were

significant at 0.01 and 0.05 levels respectively. In all other cases no differences were significant as all the t-values were not significant statistically.

**Table- 2**  
**Means, SDs and t-ratios of Seven Psychomotor Abilities of School and University Level Female Players**

S. No.	Psycho-motor Abilities	School (N = 124)			University (N =120)			dm	SEdm	t-ratios	Significant Level
		M	SD	SE	M	SD	SE				
1.	Standing Broad Jump (Mts)	1.45	0.165	0.015	1.68	0.211	0.019	0.23	0.024	9.79**	P < .01
2.	Skipping Rope Jump (30 Sec.)	58.64	12.345	1.109	64.08	12.076	1.102	5.44	1.563	3.48**	P < .01
3.	Basketball Wall Pass (30 Sec.)	24.45	3.166	0.284	25.82	2.530	0.231	1.37	0.366	3.742**	P < .01
4.	Volleyball Wall Volley (10/20 Sec.)	8.65	2.657	0.239	9.53	2.456	0.224	0.88	0.328	2.687**	P < .01
5.	Soccer Ball Wall Volley (20 Sec.)	8.17	1.560	0.140	8.00	0.979	0.089	0.17	0.166	1.025	NS
6.	Mirror Drawing Test Time Error	30.31	9.808	0.881	28.73	9.942	0.908	1.58	1.265	1.249	NS
		33.70	12.427	1.116	32.40	11.492	1.049	1.30	1.532	0.849	NS
7.	Steadiness Test	34.83	15.728	1.412	33.88	16.884	1.541	0.95	2.09	0.455	NS

As the above table shows that female school and university level players differed with each other on first four psychomotor abilities tests; where the university level players have got more mean scores on these abilities as compared to the female school level players and hence they were better on these psychomotor abilities. In case of the last three aspects of psychomotor abilities, as t-ratios were statistically non significant and hence there were no significant differences between the female school and university level players.

## Conclusions

1. The female rural and urban players differed in volleyball wall volley and mirror drawing test. This means that Urban female athletes have proved to be better on visuo-motor co-ordination, whereas female rural athletes were better on eye-hand co-ordination.
2. The female school and university level players also differed on the first four tests of psychomotor abilities, which mean that the female university level players were superior on the visuo-spatial co-ordination, psychomotor mobilization eye-arm co-ordination and visuo-motor co-ordination.

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